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**A MODEL AND PROTOTYPE FOR A COMMUNITY-RELATED
INFORMATION RETRIEVAL SYSTEM FOR PUBLIC LIBRARIES
IN BRAZIL**

By

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Thesis submitted for the Degree of Doctor of Philosophy in
Information Science

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1995

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To The Spirit, Origin, Process and Goal of the Great Work, now and always.

From 'Reap the Whrilwind' by C.J. Cherryh and Mercedes Lackey:

'When the pursuit of Knowledge requires that peace be bought by sword-point, I will be the Watcher at the sentry post. I shall be the sward that guards the Gate. Even unto death, I shall not fail those who Preserve and those who Seek' (The Warriors)

'The Gods have given wo/man a mind that s/he may use it. There is nothing to bar the flame of human mind. What the mind can discover, the hand shall achieve. I shall Seek and I shall Create' (The Seekers)

'All Knowledge is worth the preservation, all Wisdom the dissemination. Mine is the Book where it shall be recorded, mine is the Book that shall preserve it. Mine the duty to bestow it wherever and whenever it is needed' (The Preservers)

Declaration

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Abstract

This research was aimed towards the planning, design and evaluation of an experimental prototype for the systematic organisation, access and retrieval of community information and local studies, henceforth defined jointly as community-related information, for public libraries in Brazil. Community-related information services were identified as areas of modern public librarianship still to be developed in that country. To raise relevant theoretical issues that could be discussed in practice, applied prototyping was chosen as the core methodology for this project. The model proposed was built upon a software especially designed by Unesco for library applications available in Brazil called CDS/ISIS - Computerised Documentation System/Integrated Set of Information Systems. The resulting Automated Library and Community-Related Information System (ALIS) was designed based on a theoretical framework which suggested 1) information repackaging of community-related information concerns represented as A-Z listings with corresponding definitions aimed at encouraging public librarians to create their own community-related information systems; 2) a reference function implicit in the self-defining element of information repackaging and by referring the user to wider library resources to complement a community-related information query, thus encouraging the use of wider library resources, and 3) a referral function to direct users to resources external to the library capable of helping him/her with a community-related information concern and to encourage the inhouse creation of local resources files. This conceptual and practical framework was aimed at encouraging indigenous resources-building and a degree of autonomy for Brazilian public libraries to define and create their own community-related information systems based on their perceptions of community needs. ALIS prototype was made of six menu-driven modules or databases (CITYOR, AZHEAL, AZJOBS, AZLAW, LOCAL and LIBRY), related to one another in content and structure, accessed by a top menu via one-key options. Prototype specifications, database maps, data entry, master file maintenance, information retrieval services and user interfaces were described and illustrated with examples. System evaluation was carried out in Brazil in two selected public libraries which agreed to participate in the evaluation exercise. Evaluation consisted of individual interviews on perception of concepts, self-administered questionnaires on system use and implementation and data collection of real users' queries in Brazil to check whether ALIS could respond to present community-related information needs. Finally, the prototype was reviewed and discussed in the light of trends and developments for community-related information supply worldwide, validity of applied prototyping as the core methodology for this project and the setup of a national infrastructure for community-related information supply based on this research findings. Conclusions and recommendations were also drawn to encourage the development of community-related information activities in Brazil and further implementation of CDS/ISIS.

Abbreviations

BLRRD - British Library Research and Development Department
CDS/ISIS - Computerised Documentation System/Integrated Set of Information Systems
IBICT - Instituto Brasileiro de Informacao em Ciencia e Tecnologia
IBGE - Instituto Brasileiro de Geografia e Estatistica
IFLA - International Federation of Library Associations and Institutions
INL - Instituto Nacional do Livro
ISC - Information Service for Citizenship (Mario de Andrade Public Library)
LA - Library Association, London, UK
LAN - Local Area Network
LARC - Library Automation Research and Consulting Association
NPLS - National Public Library System, Brazil
NATIS - National Information Systems
PGI - UNESCO's General Information Programme
TAUBIP - Total Automacao de Bibliotecas Publicas (Total Automation of Public Library), the first public library automation system in Brazil
UNISIST - UNESCO's program for the development of a world science information system
UNESCO - United Nations Educational, Scientific and Cultural Organisation

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CHAPTER 1

INTRODUCTION, OBJECTIVES AND OVERVIEW OF THE THESIS

1.1 INTRODUCTION

In the last decades, developments in public library services in developed countries seem to have been oriented to serve local communities in basic information needs, as well as focused on the systematic organisation of local data likely not to be found outside immediate communities. In modern public librarianship, these two separate fields of community-oriented information services are called *community information* and *local studies*.

In broad terms, *community information* deals fundamentally with the provision and access to basic information that enables individuals or groups to equip themselves for the exercise of citizenship and fundamental rights. *Local studies*, on the other hand, deals with studies related to a specific local environment in all its aspects, as well as with the systematic organisation of local data of historical, socio-cultural and economical interest likely not to be obtained outside immediate communities.

It is important to point out that the provision of many community information and local studies services in public libraries in developed countries coincided in many cases with the public libraries' access to *information technology*, defined as the systems and technologies

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which process information, its classification, storage, transfer, dissemination, access and presentation - mainly, but not necessarily, employing computers and telecommunications systems (Fobes, 1987). As information technology tools entered the public library environment, they caused considerable impact on how existing and prospective resources should be processed and services delivered to the public. Basically, information technology has maximised the efficiency of traditional library repetitive housekeeping chores and liberated enterprising librarians to serve their users in their fundamental information needs.

The move towards community information and local studies supply integrated to traditional loans and reference services can be seen as one of the major contributions of modern public librarianship to their users worldwide due to the growing needs to access data to live and participate in society which characterise the post-industrial or information-based stage. In the post-industrial or information-based stage, information becomes a fundamental resource, and its processing an activity that both generates and disseminates data to be converted in applied knowledge. As more and more information is being produced, there is a growing need for some sort of skilled mediation and places like the local public library, where information can be organised, accessed and disseminated free of charge or heavily subsidised especially for the information-deprived. These facts are more apparent in public libraries in developed countries, which are already living the post-industrial or information-based stage of their development. Public libraries have identified and dealt with community information and local studies issues in developed countries chiefly by setting up community information and local studies systems and incorporating them into their traditional reference services. Nevertheless, the need to organise, access and deliver this kind of information is also being felt by developing nations, especially the ones which are re-entering the democratic process after years of authoritarian rule, such as the case of Brazil.

In developing countries and Brazil in particular, community information and local studies their systematic organisation and delivery by public libraries in special are yet to be developed.

Fundamentally, in a developing country like Brazil, information of all sorts and data on basic rights and local issues especially still tend to be considered a lesser resource if compared with more pressing needs such as health, education and housing. In other words, the move towards the information-based stage so apparent in developed countries is still to be fully acknowledged in Brazil. There is also a much deeper implication embedded in this line of reasoning, and this is the realisation that Brazil has yet to realise that the systematic organisation, access and delivery of information, community information and local studies data especially, is a tool for development and an inherent human right.

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Not surprisingly, public libraries in Brazil tend to be underdeveloped areas of Library and Information Studies mainly due to the scarcity of resources allocated to them by their equally under-resourced local authorities, historical and political reasons that shaped up public libraries as elitist and detached from their wider communities. Nevertheless, it should be realised that the set-up of public information systems attuned to the needs of their communities provide a foundation upon which many development projects may rely. Indeed, Peter Moll (1983) expressed this by saying that '*countries in the Third World are all in need of information as a vital ingredient of nation building*' (p297).

The premise is that access to information on fundamental rights and local data, as well as the role of public libraries as public information providers, cannot be considered any longer a lesser requirement for socio-cultural and economic development in Brazil. The systematic organisation, access and delivery of such data constitute firstly a basic human need which should be granted to everyone in society, regardless of faith, race and economic status. Secondly, it lays a solid foundation for understanding communities' needs and aspirations, becoming therefore a planning tool for economic and social development. Thirdly, the place where such data can be more easily accessible by all in a developing country like Brazil may very well be the local public library. Fourthly, the role of information technology, still very incipient or non-existent in most Brazilian public libraries to process and deliver such data should be addressed in Brazilian library and information studies within the specific conditions that apply to that country. This is not a lesser issue, because Brazil cannot afford to alienate herself from worldwide developments in library and information studies.

Also, there is a strong case that cannot be ignored in Brazil for the supply of basic information on rights and local data of all types to make up for the dark years of authoritarian rule Brazil was subjected to. For more than twenty years Brazil was under a military dictatorship, which severely restricted civil liberties and controlled the access and dissemination of information with strict censorship. Return to full democracy started only in the late 1980s. Therefore, there is much to do for the country to retrieve information on rights, the national memory, culture and values whence they originate: the community. Within this context, community information and local studies are fields of enormous potential for the application of library and information skills.

Paradoxically, there is a positive legacy left behind by the military rulers which may have important implications for the set-up of community-oriented information services in public libraries nationwide as far as information technology is concerned. There is in Brazil an indigenous computer industry and telecommunications infrastructure built by the military to enable centralised control of the country for their purposes. It is time for this existing infrastructure to become operational in public libraries, operated and managed by Brazilian

public librarians to serve their communities.

The present research work focuses therefore on areas of Brazilian Library and Information Studies (LIS) and practice that need change, for they have been either neglected or not given the chance to develop, namely public libraries, community information and local studies.

Usherwood (1989) says that at the very heart of our consideration of the social function of the public library lies in the view of what information is, be it a fundamental right to citizenship, a commodity or a tool to bring about positive change in society, and that the debate of such issues raises fundamental questions about the kind of society we want and the policies we wish to pursue so as to improve the life chances of members of this society. These questions are being raised by Brazilian society since its return to full democracy in late 1980s, and Brazilian public libraries may have an important structural role to play in this context, as this project intends to demonstrate.

Neelamegham (1981) states clearly that information systems are intended to contribute to the socio-economic and cultural development of all individuals in the society, to enable the nation as a whole to make her distinctive contribution to world peace and prosperity and to maintain the nation's identity and personality in the community of nations. These remarks are equally valid for the set-up and maintenance of community information and local studies as a much needed public information service for a developing country like Brazil.

Thus, the aim for this doctoral project constitutes the study of community information and local studies supply by public libraries in Brazil and in the proposal, design and evaluation of an experimental model capable of offering some solutions for the systematic organisation, access and dissemination of community information and local studies for Brazilian public libraries by making use of indigenous resources and skills. It is hoped that this theoretical and practical model can make a contribution for the debate of community information and local studies issues by public libraries of a developing country like Brazil, thus help bridge gaps and encourage this much needed and skilled mediation in that country.

1.2 OBJECTIVES OF THIS PROJECT

Objectives of this thesis are as follows:

1. To study community information and local studies supply in public libraries in Brazil;
2. To suggest a joint concept for community information and local studies, henceforth *community-related information*, for the supply of community information and local studies

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data by public libraries in a developing country like Brazil;

3. To demonstrate the concept of community-related information in the design of an *applied model* for a *community-related information retrieval system* for public libraries in Brazil capable of encouraging the systematic organisation, access, retrieval and dissemination of community-related data and maximise the use of existing wider resources, and
4. To test this community-related information retrieval system prototype to obtain insights on implementation issues for the model proposed.

Therefore the aim of the present research project is to consider community information and local studies supply within a conceptual and analytical framework in order to raise issues still not fully dealt with or developed in Brazilian public librarianship.

1.3 OVERVIEW OF THE THESIS

The thesis is organised in three parts, which are in turn subdivided into chapters.

Part One, Theoretical Considerations, introduces the foundation, objectives, research context, literature review and methodologies used in the present research project, and comprises three chapters.

In *Chapter 1*, introduction, impetus for the study, general objectives for this research and overview of the thesis are presented.

Chapter 2 reviews how community information and local studies have been dealt with by public libraries in developed countries. Firstly, concepts, need and development of community information and local studies in public libraries are introduced taking the North American and British experience as a paradigm. Secondly, current projects in developed countries are reviewed so that a measure of the state-of-the art for community information and local studies supply by public libraries is obtained, and a comparative analysis of findings is introduced.

Chapter 3 reviews community information and local studies in developing countries, with special emphasis on the Brazilian context. Firstly, community information and local studies projects in developing countries are described. Secondly, community information and local studies in Brazilian public libraries are reviewed and interpreted in the light of the historical, economical and political factors that have prevented these services from flourishing in the country until recent times. Thirdly, the case for a community-related information service, i.e.

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coupling community information and local studies supply, integrated to traditional public library services is suggested for Brazilian public libraries in order to respond to the need for this important public library service yet to be developed in that country. The concept of community-related information is introduced and justified for the context of this project. This concept will be applied later to model an automated community-related information system for public libraries in Brazil, the core of the present doctoral project.

Part Two, Design Process and ALIS Prototype, focuses on the description of the methodology used in this research, on the analysis of fundamental data that led to the system design as proposed, on the rationale underlying the system design and finally on the detailed description of the databases created, system use and maintenance. It comprises Chapters 4, 5, 6 and 7.

Chapter 4 is devoted to the description and justification of the methodologies used in the present project. These are the following: 1) postal survey to obtain insights on current public library procedures in Brazil; 2) applied prototyping for the design of model for a community-related information retrieval system for Brazilian public libraries and 3) prototype evaluation taken place in Brazil.

Chapter 5 presents the results of the national survey of selected public libraries in Brazil to obtain data on current practice, community information, local studies and automation.

Chapter 6 focuses firstly on the description and justification for the prototype design, based on the concepts of Information repackaging and a reference/referral framework. Secondly, overall system specifications are presented, including hardware and software requirements, as well as editing and retrieval features. Thirdly, UNESCO's library automation package Micro-CDS/Isis is described, because this is the database management system software upon which the present prototype is modelled.

Chapter 7 contains firstly the detailed account of the six databases designed for the prototype. Relationships, database content, maps and formats are described and illustrated by tables and figures. Secondly, system use and maintenance are presented, including data entry, editing, information retrieval, data import/export and user interfaces.

Part 3, Evaluation, covers system evaluation, discussion of evaluation results and implementation issues. It comprises Chapters 8, 9 and 10

Chapter 8 describes the evaluation of the model which took place in two public libraries in Brazil. It therefore focuses on the report of assessments obtained from Brazilian practitioners

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who agreed to take part in this stage of the study, and report of data collection of real users' queries obtained in these Brazilian libraries. *Chapter 9* focuses on the discussion of the evaluation results and analysis. In the *Conclusions and Recommendations* in *Chapter 10* the final assessment of the prototype is made in terms of its contribution for improved community-related information services in public libraries of a developing country like Brazil.

CHAPTER 2

COMMUNITY INFORMATION AND LOCAL STUDIES IN DEVELOPED COUNTRIES

2.1 INTRODUCTION

This chapter reviews how community information and local studies have been dealt with by public libraries in developed countries.

Firstly, concepts, origins and development of community information and local studies in public libraries in developed countries, more specifically in the United Kingdom and the United States of America, are introduced. The aim is to establish the foundation for the development of community-oriented information services in public libraries, which has been a steady and increasingly important phenomenon since the 1970s in developed countries.

Secondly, community information and local studies projects worldwide in developed countries are reviewed so that an overall picture of current practices of community-oriented services in public libraries is presented. References to community information projects outside the public library environment are also presented, because there seems to be an increasing trend towards the setup of specialised community information services to cater for specific community needs, as developed countries are already in the information-based age.

Finally, a comparison of community information and local studies services available in public libraries in developed countries is attempted to identify existing common links, if any, based on concepts and current practice of literature findings. This analysis aims to synthesise factors which highlight the growing need for community-oriented information services in public libraries in developed countries worldwide.

2.2 COMMUNITY INFORMATION CONCEPTS

Concepts are elements of the structure of knowledge and can be described as constructs of human cognition processes which assist in the classification of objects by way of systematic or arbitrary abstraction (Sager, 1990). The naming of a concept may be in fact considered the first step in its consolidation as a socially useful or usable entity for efficient communication and exchange of ideas.

Nevertheless, according to Bunch (1982 and 1993), the formulation of a concept for **community information**, term favoured by British librarianship and this thesis, constitutes the first barrier one has to face due to the polysemous nature of the term's compounding elements **community** and **information**. The first task one should attempt to undertake is therefore to filter among the many definitions of the compounding terms *community* and *information* to extract a concept capable of conveying the meaning of **community information** within library and information studies as a specific, unambiguous and unique entity.

The Oxford English Dictionary (OED) defines a community as 'a body of individuals having common or equal rights or rank as distinguished from the privileged classes' (p582), and information as 'knowledge communicated concerning some particular fact, subject or event, that of which one is appraised or told; intelligence, news, specially contrasted with data' (p944). Nevertheless, for the purposes of the present study, a definition of community should be inclusive and not refer to rank or privileged classes. The definition of information according to the OED, on the other hand, is too broad. Thus, based on the OED, a literal and crude definition of community information would be 'knowledge communicated concerning some particular fact, subject or event to a body of individuals having common or equal rights', which yet does not explain precisely what sort of knowledge is communicated and/or meant by community information and restricts community to a body of individuals only.

In order to overcome the barrier for an adequate terminology, Bunch states that *community information* is better understood considering the **nature** of the information it deals with and the **clientele** it is destined to serve, and that in view of its nature and clientele, community information can be defined as:

- 1) **survival information** of public and local concern that deals with everyday life and problems, such as health, the law, jobs, education issues, housing, income, leisure, etc., and
- 2) **citizen action information** needed for active participation as an individual member or as a group in the social, political, legal, economical process.

Thus, as far as the British experience is concerned, community information refers to fundamental data on everyday concerns and rights needed by individuals and groups which are made available by public libraries as a public information service to users.

In North American librarianship, community information is more broadly known as **Information and Referral (I&R)**, defined by Childers (1983) as *facilitating the link between the person with a need and the resource or resources outside the library which can meet that need (p1)* and as *'the process of linking an individual with a need to a service or a source of information or advice which can fill that need'* (American Library Association, Guidelines for establishing Community Information and Referral Service in Public Libraries, 1986)

It could be argued that these two definitions favoured by North American public librarianship are too wide. Although community information supply in public libraries is indeed aimed at facilitating the link between a person with a need and the resource(s), activities, individuals, organisations, advice that may fulfil that need, not all community information request needs necessarily to be referred to resources outside the public library. On the contrary, community information resources as a fundamental public information service needed to solve everyday concerns or to encourage the exercise of rights should be accessible first and foremost in the public library environment at the user's request. Only in cases when the library is unable to solve a community information need should referral to external resources be called upon.

A more concise definition of community information is given by De Smet (1994), stating that community information is *'the information which supports the acting of people as citizens, that is, as members of the social community'* (155p).

For the present research, the British concept of community information is considered more adequate. Community information in this thesis is seen as public information data systematically organised and made available by public libraries to users aimed at aiding them with everyday concerns and informing users on fundamental rights.

For **community Information services** throughout this thesis are meant all services that comply with the requirements of the standard definition by the Working Group on Community Information of the Library Association of Great Britain:

" The services which assist individuals and groups with daily problem-solving and with participation in the democratic process. The service concentrates on the needs of the most important problems that people have to face, problems to do with homes, jobs and rights" (Working Group on Community Information, 1980, p12).

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Clearly, from the definitions introduced above, community information supply in public libraries constitutes a fundamental public information service, very much attuned to the philosophy, scope, resources and skills of the modern public library environment: the provision of not only books, but also of information on fundamental concerns that affect people's everyday lives in their communities.

2.2.1 HISTORICAL DEVELOPMENT

The origins of community information are outlined at length by Bunch (1982).

Basically, origins of community information are in the United Kingdom and the United States of America, and can be traced back to the 19th century with the creation of public libraries to cater for the information needs of all. The most significant developments, however, were due to World War II, when in the UK Citizens' Advice Bureaux (CABx) were set up to help communities with wartime problems, such as emergency regulations, evacuation, separation of families, etc. CABx increasingly took on family and personal problems not war-related as time went on. Meanwhile, many municipal libraries were also called on to set up information offices during the war, performing similar tasks to CABx. When the war ended, regretfully, these centres never developed, although referrals were provided when need be.

In the USA, Veterans' Information Centres modelled on the British Citizens' Advice Bureaux were set up after World War II by the Department of Labour to deal with rehabilitation and training of service men. Many centres were opened, but the majority was closed down by 1949.

During the 1970s, interest in community information by public libraries rose again in Great Britain and in the USA. There are several reasons for this:

1. Acknowledgement of information as a right for the full exercise of citizenship and democratic rights, as recognised in the UK by the National Consumer Council in 1977, stating that information is the *fourth right to citizenship* (Working Party on Community Information, 1980);
2. Development of a more complex apparatus for the welfare state and legislation as a whole, and the realisation that some sort of mediation should be provided to help the public, especially the information poor, who would not be able to move through this information maze unaided.;
3. Increased participation from the public in the decision-making process in an individual or associative basis, as demonstrated by the growth of special interest groups, such as

consumers' rights and environmental agencies, which give relevance to information so that proper action can be taken.

4. Public libraries' access to information technology (IT), defined as the systems and technologies which process, classify, store, transfer, disseminate, access and present information, mainly, but not necessarily, employing computers and telecommunications (Fobes, 1987). Increasing access to IT by public libraries in many cases improved the performance and speed of repetitive housekeeping chores, liberated enterprising practitioners for more creative tasks, such as the design of in-house community-oriented information services and/or to act as a host for the provision of special information media to serve their users.

This context required more participation and commitment from public libraries. The statement by the Public Library Research Group in 1971 in the UK quoted below demonstrates the clear acknowledgement of this responsibility:

'The aim of the public library is to contribute to sustaining the quality of life in all its aspects... and to promote the concept of a democratic society in which equal opportunities exist for all to develop into true citizens. This contribution is effected through public libraries as a multi-purpose information-education-culture agency. It should foster the free flow of information and ideas' (Public Library Research Group, 1971,p233).

Since then, community information services in British public libraries have grown to be a generalist public information service, approaching a wide range of topics concerned with the welfare of individuals and groups in society. Indeed, community information services and resources in a public library in Britain may include from housing to consumers' rights, employment, education, the law, health, recreation, the family, minorities, etc.

To illustrate some of the several functions performed by a community information service also for Great Britain, Bunch (1993) supplied the following:

- a. Self-help collections and leaflets, containing carefully reprocessed information to be readily understood, displayed and arranged to enable direct access to users. It is usual for this material to be produced by a district or central office;
- b. Support for other information services or for groups of professional workers, via selective dissemination of information, current awareness services, press cutting services, provision of loan/reference books, publicity and educational materials, supply of local data;
- c. Information giving, which range from directional information to the complex, such as

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eligibility to social benefits, and may involve steering an enquirer to an agency from whom fuller help or advice can be obtained;

d. Referral: or a more active kind of steering, in which contact or an appointment is made for an enquirer with an agency that may help. In some cases, it may be necessary to escort the client to the agency to foster contact client-agency;

e. Practical help with writing letters, form filling or making phone calls;

f. Advocacy: needed when a client is not capable of obtaining the information services, benefits or justice to which s/he is entitled. A positive identification is made with the client's case, which is then argued in front of officials, tribunals or courts on the client's behalf;

g. Community education: in the context of information and advice work, is a process of increasing self-sufficiency of individuals and groups to manage their own affairs, obtain their rights, etc. or to improve their awareness and understanding of issues that affect them;

h. Community action: involves the information service in playing an active role in precipitating change either by acting itself or by alerting other individuals and groups to campaign. Action can arise of analysis of enquiries received, when it becomes apparent that a service or a facility is urgently needed in the community, or when a situation exists that is causing injustice or disadvantage to people;

i. Outreach: the provision of information or service to a clientele wider than that usually served by the community information service in either geographical and sociological terms. It covers the use of extension bureaux, mobiles and deposit collections, as well as the use of media, advertising and viewdata, and finally

j. Counselling, which requires a greater commitment of time and level of training to help individuals with problems.

Not all these activities are obviously always found in public libraries, but this is the range of services a user may expect them to fulfil as far as the British and North American experience are concerned.

One should bear in mind that in the developed world, and Great Britain is a good example, there is a long-standing tradition in voluntary organisations covering a large range of specialist areas of public concern, such as consumers' rights, the environment, protection of animals, specialised aid agencies, e.g. Arthritis Care, HIV-related diseases, addictions, etc.,

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which rely on up-to-date information provision not only to function effectively but also to aid their users. In Great Britain, there are many examples where long-established voluntary agencies co-operate closely with public libraries for community information supply, and even have offices in the local public library building, i.e. Citizens' Advice Bureaux, local Consumers' Councils, Tourist Boards, etc.

In the USA many community information services, or Information and Referral (I&R) according to North American terminology, were given the impetus from research funded by the Neighbourhood Information Centres (NIC) projects in the early 1970s. Fundamentally, NICs were created to cater for the needs of the deprived in the inner city areas of American big cities. Many of these centres were located in public libraries, which welcomed the opportunity to serve their communities, and so rejuvenate declining branches or central libraries in older towns and deprived inner city areas.

The North American approach with emphasis in I&R as a link between the user and external resources to solve a basic information need led many public libraries to develop an active mediation/advice/counselling role, much stronger than in the British Isles. Some of the reasons that can be attributed to this fact are the lack of a long standing voluntary sector in the USA such as the one existent in Britain; the decentralised model of North American library and information systems, where the market forces dictate the economy and services, based on private and state-owned means of production (Mee, 1983), and the continental size of the North America with wider regional differences requiring less centralised control to respond more effectively to varied needs. Nevertheless, the USA counts, on the other hand, with a strong foundation on information technology, making the North American model for community information supply fundamentally network-oriented via integrated computer systems and local area networks.

The origins of community information in public libraries in the UK and the USA are thus firmly rooted in the spirit of public librarianship prevailing in these countries to make books and information available to all, although most recent developments can be traced back to community outreach activities engaged by public libraries from late 1970s onwards. The historical development of such services in both countries seems to demonstrate that public libraries have taken responsibility for supplying community information either to fulfil pressing community needs or to complement a fundamental aid/information service provided elsewhere. For the years to come, it can indeed be said that community information in public libraries may constitute an invaluable public information service. As societies become more complex and organised, information sources become equally more complex, numerous and expensive. In this context, it may well be in the local public library that all sorts of users, and the information poor especially, will find qualified staff with the willingness to serve and free

or heavily subsidised resources to cater for fundamental information needs and concerns.

2.3 COMMUNITY INFORMATION IN THE UK

The British experience in community information supply in public libraries clearly stands out for scope, high standard and variety of services provided. It also has been comprehensively reviewed and analysed by Batt (1985, 1988, 1990 and 1992) and Hermann (1987). Reports of practical experience and projects also abound.

Broadly speaking, community information in British public libraries has the following characteristics:

- a. *Structural organisation:* community information supply by British public libraries in the last decade has evolved to a centralised and co-operative model, where a head or central library of a local authority organises, co-ordinates and shares community information initiatives with minor or branch libraries under its jurisdiction.
- b. *Resources:* in terms of resources, it can be said that community information in the British Isles places emphasis on the systematic organisation by public libraries of local resources files, i.e. directories of local organisations and contacts, mostly online, collection building in areas of fundamental public concern, informative leaflets and ephemera from authoritative sources, such as the Department of Health and Social Security, Citizens' Advice Bureaux, National Consumers' Council, etc. All these resources in general bear distinctive labels, e.g. housing, the law, etc., and tend to be prominently displayed and of easy access (in general by the entrance/next to the General Enquiry Desk).
- c. *Availability to users:* community information is made available in British public libraries in a variety of formats, ranging from traditional collections identified as community information sources, manual/online files and/or directories of local resources, posters and displays on public interest issues, informative leaflets and ephemera to be taken away, etc.

All in all, perhaps the major characteristics of community information in British public libraries is its strong self-help and awareness-raising components. Indeed, it can be said that in the British Isles the public library is the channel and facilitator to inform users on how to solve everyday needs and get informed on fundamental rights by the systematic organisation and use of a wide range of information resources and delivery means. These two unique aspects of community information supply in British public libraries may very well be so to complement the advisory/aid and steering-for-action functions already fulfilled by the long-standing voluntary sector in the United Kingdom. As mentioned before, many such agencies, e.g. Citizens' Advice Bureaux, consumers' councils, etc. are located in public libraries in

many towns in the British Isles.

2.3.1 COMMUNITY INFORMATION PROJECTS IN BRITISH PUBLIC LIBRARIES

The large number of references to current community information projects in British public libraries required the establishment of some restricting criteria for this literature review. Bearing in mind that the present research project is aimed at suggesting an automated model for community-oriented information services for public libraries in Brazil, the present review is mostly concerned with the report of projects involving automation for community information supply in the British Isles. Nevertheless, it must be borne in mind that community information can be provided without the use of automated devices by making use of traditional information processing and delivery means. The use of information technology tools, however, is recommended whenever possible, because they can be invaluable to organise, process, manage and deliver data faster and more efficiently than by manual means.

The earliest uses of automation to process community information data in Great Britain can be traced to the late 1970s, with the use of mainframe computers situated in the premises or external to the public library. Although an early development, Batt (1992) reported that the following public library authorities in Britain still used mainframes to process community information data:

1. *Durham* used in-house mainframe to process local resources files of organisations and services; access to information in files was provided either online in libraries possessing terminals; otherwise, access to printouts was available;
2. *Ealing*: has its database of local resources containing organisations, contacts and services held on council mainframe. Users have access to printouts only;
3. *North Yorkshire*: mainframe containing directory of local resources for staff access; printed copy available to users

Also reported by Batt (1992) and an early application of information technology to process community information data is the use of word processing packages to edit lists and/or directories of local resources. Recent examples of word processed lists of community information data were: *Merton*, word processor output to loose leaf hardcopy available to users, and *Saint Helen*, which used a word processor to compile its local information file and societies, and doctors/dentists updates

Community information is also widely distributed in British public libraries via *viewdata*,

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videotex and *teletext*. Hermann (1987) in her comprehensive survey of uses of IT in London public libraries reported that advantage of *teletext* was currency, particularly for news coverage, making of it an ideal 'electronic newspaper' for users, although City of London, Islington, Kensington, Kingston and Redbridge reported that their users showed little or no interest in teletext, so were considering withdrawing provision. *Viewdata* produced by local authorities and/or private suppliers, on the other hand, was preferred for community information supply because it provides a visually attractive and user-friendly and user-driven/customised option, that can be extended to council offices, CABx, voluntary service organisations. They therefore provide the means for the establishment of networks linking all information providers and advice agencies in the local authority, libraries and organisations in the community.

Batt (1992) stated that community information supply via *viewdata* is used by 18 public library authorities in the British Isles out of a total of 167 countrywide. Private *viewdata* is particularly well-regarded due to their content and specificity, easier to achieve because they are produced by specialists and customised to particular needs.

Perhaps the most significant development for community information supply in Great Britain are the community information modules developed in-house by public libraries simply by expanding the use of their automation packages to include community information modules. This practice has become standard, and it can be well said that much of this success is also due to the partnership of library automation suppliers such as GEAC and DYNIX, which have co-operated with British public libraries to include in their commercial products community information modules. to respond to the need acknowledged by British public librarians.

The first of these joint enterprises was between GEAC and Hillingdon public libraries in 1984 for the design of local community information module (Westlake and Clarke, 1987). This was a directory of local services and organisations searchable by subject, names of organisations and keywords, and still operational today.

There is, nevertheless, one community information system also developed on GEAC that stands out for high standard and uniqueness. This is CINDEX, developed at the London Borough of Camden.

CINDEX - Camdem Community Information Network Directory and Exchange was developed by public librarians of the London Borough of Camden with GEAC, used as a circulation package by Camden libraries since 1983.

CINDEX was created first in 1979 as a card index. In 1984 it was transferred to a Wordplex

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word processor, giving origin to a much sought-after annual printed general directory and specialist mini-directories, which were distributed to 56 major local advice and information providers, such as Citizens' Advice Bureaux and the Town Hall Information Desk. Finally, in 1991 CINDEX appeared online in a customised version of its GEAC's housekeeping and circulation package. (Hayes, 1992).

Basically, GEAC's standard opening menu gives access to the catalogue, CINDEX and a database for school topics management listings designed to support the School Library System in that borough (Hayes, 1992). CINDEX is made of two databases: a directory of organisations and services (mainly local, but non-local agencies can also be found) and a directory of adult education courses (non-degree courses) in Camden. As other modules in GEAC, it has a character-based interface..

CINDEX entries are made of the following fields, accessed by all: i) subject, containing the heading or headings under which the record is accessible; ii) address details; iii) telephone; iv) service details in free text (normally 8 lines), and v) date for currency of record, and the following fields accessed by the library staff vi) contact name; vii) keyword; viii) list codes for extraction of data according to broad categories rather than precise subjects, ex. CL for council-run leisure services; ix) ward or polling district coding; x) details, e.g. expiry date for optionally assignable to temporary records, and xi) a count of the number of times an entry has been accessed.

Searches can be made by subject, name of organisation or service and subject of adult education courses. Browsing is possible through the index (Forwards/Backwards) and between individual records (Last/Next).

CINDEX has become the model for many other public libraries considering community information automation and GEAC users in Britain. For a typical day, Hayes (1992) states that the system records some 3,500 SEND (GEAC's equivalent to the carriage return/enter) from public terminals. Its mini-directories and General Directory are also in constant demand from clients, with ten requests a week on average. Plans for the future are access from other Camden council departments using communication links and dial-up access from compatible PCs in advice agencies and the private sector are being projected (free and fee-based respectively), as well as electronic mail provision to notify amendments to staff.

Other examples of public libraries using GEAC community information modules Sutton Link (with an extra module for local news and events (Wilkinson, 1990); Falkirk (local information package at all terminals updated every year), Enfield and Westminster (Batt, 1992).

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The literature also refers to *community host systems* as community information (Hermann, 1987) (VINEDT, 1992), although a word of caution must be said about them. Basically, community host systems are co-operative systems accessed through public libraries, aimed at supplying a subsidised special information and/or services to specific groups of individuals and/or groups in the community, who would not be able to access or afford such data otherwise. As a service to individuals and/or groups within the community, community host systems in public libraries may be of great value, although they do not necessarily contain information on everyday concerns and/or fundamental rights. Hermann (1987) stated that community host systems providing access to external databases were offered by the public library authorities of Bromley, Camden, Croydon and Sutton, via Dialog, DataStar, Infoline, IRS-Dialtech; electronic mail was provided in Hillingdon; Fac-simile (fax) transmission by the City of London, Croydon and Hammersmith; and Electronic mail and office automation: City of London.

Reference should be made to a specialist community information service located in a public library called Healthpoint-Dorset. In August 1988, Dorset County Library (DCL) was the recipient of an award from the Office of Arts and Libraries, the Public Library Development Incentive Scheme, DCL then submitted a plan to the British Library to establish a health information centre based in Poole Central Library, but serving the whole population of the county. The idea stemmed from the number of enquiries received on health-related enquiries, which justified such an enterprise.

Thus, Healthpoint opened February 1989, and its aim is to provide people in Dorset with information on health in an easily comprehensible form. Resources include books, leaflets, articles, periodicals, newsletters and grey literature from specific medical conditions to more general topics such as alcohol, diet, smoking. Healthpoint also holds the Help for Health database, Helpbox with details of Wessex and national self-help and voluntary groups. It has its own files using Card-box software, and in July 1990 the stock numbered 425 books and 1,600 leaflet titles (Manners, J. 1990).

Attention should be drawn to the following issues which made this initiative so successful: acknowledgement of a fundamental area of users' need of community information concern, resources-building (especially leaflets and grey literature) and directories of services, self-help and voluntary groups.

The analysis of community information projects in public libraries in Britain shows therefore a remarkable degree of consistency in terms of the systematic organisation of resources, mostly via the in-house production of directories of local resources and use of information

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delivery tools to process data and make it available to the public, i.e. expanded use of the catalogue, viewdata, etc. British public libraries seem also to be moving towards the provision of specialist information services targeted to special segments of their communities, naming the service accordingly, i.e. Healthpoint-Dorset for local health data.

Finally, one should bear in mind that British public libraries have long accommodated special information services in their premises in general to attend a demand or request from their local authorities or renowned voluntary agency. For example, tourist information can be found in many local libraries in the British countryside, e.g. as in the case of Welwyn Garden City library, and the countless Citizens' Advice Bureaux agencies located in local libraries. Indeed, it seems reasonable to affirm that in the United Kingdom whenever a community need is spotted, public libraries make serious attempts to respond to that need or complement the role of an existing agent.

2.3.2 SPECIALIST COMMUNITY INFORMATION OUTSIDE PUBLIC LIBRARIES

In recent years, specialist community information services have been created outside public libraries in Great Britain to cater for special information needs in the community. In general, they are produced in the British Isles by a local government department or special interest groups. Some examples are the following:

*** Manchester Host:**

The Manchester Host project (VINEDT, 1992) is run by a worker's co-operative, Soft Solution Limited, and grew out of a feasibility study carried out by the Centre for Employment Research at the Manchester Polytechnic. It was initially funded by the Manchester City Council, is the first of its kind in the UK and has generated considerable interest in other regions of Britain. Its aim is to make a wide range of on-line services accessible to organisations and individuals for whom the cost of such services would otherwise be prohibitive.

The following facilities are provided: electronic mail; fax/telex; bulletin boards (created by users, whereby messages can be created and held on the system to be accessed by anyone or by a defined group of users); on-line conferencing; services to enable rural communities to access IT and communications, called Electronic Village Halls; access to local, national and international databases, online links to similar machines in major cities of continental Europe, in the European Connection, to enable Manchester organisations to establish partnerships with European companies working in the same field via information exchange; document translations via electronic mail for sales literature, and desktop publishing. Requirement for gaining access are a PC, a modem, a telephone line, communications software and

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subscription to the service.

* GUIDe

GUIDe is a public community information service launched by the Gloucester Health Authority, Cheltenham and Gloucestershire Council Social Services to cater for the information needs of the elderly, the disabled and their carers in that region . It consists of a database designed with CAIRS using a VAX computer, containing information available to health professionals using existing networks and equipment. A micro-resident, enquiry-only version of the system is also available, allowing access to any PC user via the telephone network; floppy disk copies of the database and enquiry system are also available. In addition, copies of the database will be made to hospitals, health centres, voluntary organisations, etc.

The GUIDe initiative has been selected by the Department of Health as a pilot project within a wider scheme, the National Disability Information Project, aimed at improving the effectiveness of national information providers, to promote greater co-ordination of services and to encourage locally the development of information services (VINEDT, 1992:9)

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* VOLNET UK

VOLNET UK is a central database service offering information on arts and recreation, business and enterprise, community care, education, employment, social welfare, local government, housing and homelessness for the community and voluntary sector. In addition to online access to databases offered by the host, Volnet offers a document supply service whereby photocopies of articles and press clippings referenced on the database may be requested (subject to copyright regulations).

The service operates on a non-profit basis and facilities have been donated by a number of organisations. Access is via communication facilities provided by Mercury, the search software is Headfast, IBM provided a marketing budget and the Home Office pays the salary of a full-time training and marketing person - the only salaried employee of Volnet. The network is jointly managed by the Volunteer Centre UK and the Community Development Foundation, and is hosted by the Polytechnic of North London (VINEDT, 1992:36).

* GLASGOW ONLINE

GLASGOW ONLINE is a stand-alone community information resources database for tourist information created with HyperCard, a hypertext software made by Apple, developed by the University of Strathclyde, the City of Glasgow District Council and Apple Computer UK (Baird and McMorow, N. 1988).

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Basically, hypertext consists of systems of non-sequential reading and writing, allowing information to be linked through the creation of paths through a corpus of related material, nodes and pointers to either bibliographic data or the body of referenced text (Baird and McMorrow, 1989). Thus, Glasgow Online explores the associative power of Hypercard by linking nodes within the database, allowing users to navigate at will, gathering information according to specific needs. Personnel involved in this project amounted to 31 in 1989 and funding to £153,000 pounds sterling was allocated to the project. This was an experimental stand-alone project, which is no longer available.

The growing number of specialist community information services provided outside public libraries in Britain seems to demonstrate that community information services, at one time restricted to public libraries only, are increasingly being offered by local authorities and special interest groups in response to specific demands in the community and by making use of varied information technology tools. Some of these services, nevertheless, do not fit exactly into the classical definition of community information as basic data to solve everyday needs and foster the exercise of citizenship. Nevertheless, the fact that they stem from the identification of specific requirements and needs of individuals or groups in a community qualify them to be characterised as specialist community information services.

2.4 COMMUNITY INFORMATION IN THE USA

Community information, or Information and Referral (I&R) according to North American terminology, is widespread in US public libraries.

To demonstrate the full acknowledgement of the importance of community information supply by public libraries in the US, one may refer to the USMARC Community Information Format created in 1992 for improved data exchange and access especially to information addressing non bibliographic needs of individuals, government, organisations and non-profit institutions (Lutz et al, 1992). This is the first reference in the literature to a national standard for community information supply that attempts to suggest guidelines for inputting non-bibliographic data. It also implies that local data may be of use to other localities, and therefore must be kept systematically organised within a broader framework.

The following aspects also characterise community information services in North American public libraries:

- a. The decentralised model for the provision of library and information services predominant in the USA, which allows freedom for the states in the federation, and consequently their public library systems, to issue independent decisions, as well as the influence of market

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forces in the state decisions, may well be one of the factors responsible for unique community information initiatives found in American public libraries;

b. The American model for community information supply is fundamentally network-oriented and technology-led as access to information technology tools is understandably easier and more affordable in the USA. Many networks are being set up via expansion of the existing online public access catalogue (OPAC) to include community information files. There are reports of cases where the public has direct online access to public libraries' resources via modems and telecommunication devices that bring the library to the users' home computers;

c. The theory for community information services in North America place more emphasis on advice-giving and active aid to users, especially the information poor (Childers, 1991), and this can be attributed to the absence of a voluntary sector/social services where such data can be obtained free of charge or heavily subsidised.

2.4.1 PROJECTS IN THE USA

Due to the widespread automated I&R services available in North American public libraries, this literature review will focus on current major trends and unique initiatives.

*** Automated community information networks**

Automated community information networks involving regional public library systems co-operating with other local libraries, ex. college libraries, via expansion of the online public access catalogue to include I&R modules were mentioned by:

a) Balas (1993), reporting on Cleveland Free Net, a community information network for public libraries in the Cleveland area, containing directories of local resources and organisations;

a) Kershner (1994) and Kershner and Crowe (1991), reported on the Peninsula Library System, a consortium of public and college libraries in San Mateo County (California), linked in a network. Libraries share a common bibliographic database and circulation control system, there is a central reference centre, a video centre and a Community Information Programme. Data are organised at local level and shared by all via the network. Other activities are the co-ordination of bibliographic standards, children's programmes, circulation policy, multicultural services and literacy programmes;

b) Balas (1993), reporting on Cleveland Free Net, a community information network for public libraries in the Cleveland area, containing directories of local resources and organisations;

c) Szynaka and Cain (1989) reported on PALS, the public access library system of Pasadena Public Library. The community information system consists of calendar of events, a directory of local government officers, a file of local organisations and a file that matches street addresses with public school facilities. This is an end user-oriented project which has received much praise in the community, and

d) Maggie's Place, the automated library system of Pikes Peak, Colorado, which has been in operation since 1975. Maggie III is an integrated system that supports an OPAC, housekeeping functions, acquisition and serials modules, circulation, electronic mail and community information databases. It also has access to 300 terminals and be accessed simultaneously by up to 1,600 home computers, besides providing access to external databases. This constitutes a remarkable project by the range of services provided and continuity for almost two decades (Nilsen, 1985) (Dowlin, 1985).

*** Electronic Bulletin Boards**

Electronic bulletin boards in public libraries were reported by Robertson (1986). The first was the Apple Bulletin Board System used at the North Pulaski Branch of Chicago Public Library to publicise library events and distribute public service messages. San Bernardino Public Library (California) also uses an electronic bulletin board to take reference questions from patrons and to leave answers, as well as to publicise community events and library services.

*** A public telephone line for community information:**

The Virginia Department of Public Libraries organised in Virginia Beach a public information telephone line which helped to prevent tension and violence during the national gathering of college students in their area on the Labour Day Weekend. A file of road closings, vehicle permits, events and public enquiries was built with WordPerfect and public enquiries were received on up to 10 telephones for 94 hours, and the project was considered a great success (Virginia Beach, 1991).

*** A polychannel system for community information**

Finally, Gifford (1990) reported on a polychannel and the experimental data obtained by testing it at the Boston Information System. This is a new type of distributed computer system designed to provide sophisticated information services for an entire metropolitan area, combining digital broadcast channels and duplex communication channels in a polychannel system. The experiment proved to be capable of providing sophisticated information services for up to a million users.

The North American experience in community information supply seems therefore to be wide

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and far reaching, network-oriented and technology-led. It also shows a high degree of integration, co-operation and firm steps towards standardisation, as illustrated by the establishment of a USMARC format for community information exchange and non-bibliographic data issued in 1992. Moreover, although emphasis is placed on extending the use of the online catalogue for the organisation and delivery of community information data to users, the analysis of ongoing projects in North America shows that there is much room for original initiatives, which are left to the ingenuity of library professionals and special community needs. Two examples of such original initiatives are Virginia Beach's temporary telephone helplines helping that community during a busy holiday and the use of electronic bulletin boards to take reference questions from patrons and to leave corresponding replies in San Bernardino, California. Finally, the reference to the experiment of a polychannel system for community information supply capable of providing services for up to a million users in Boston, one of the cradles of computing and information technology in the USA, shows that community information services are well-established and in the forefront of research and development activities in IT in that country.

2.5 OTHER PROJECTS IN DEVELOPED COUNTRIES

References to community information projects in developed countries other than the United Kingdom and USA show that such services are fully acknowledged and provided to the public by public libraries.

Worldwide, the Scandinavian experience stands out. As reported by Thorhause (1988) in his review of trends in Scandinavian public libraries, community information supply is compulsory in Nordic libraries. Public libraries therefore collect, organise and disseminate official and non-official information needed by individuals, groups and organisations to uphold political interests, as well as data that should be known by the public before final decision is taken by the government. For example, in Denmark, drafts of European Community agreements and by-laws are immediately available in public libraries so that the Danish people have effective access to documents and information on decisions to be taken by the Danish government on their behalf. The community information section is clearly signposted and located at the entrance of most Norse libraries as well.

The fact that community information supply is acknowledged by the government as an essential service the public library renders to the community shows a remarkable degree of interaction between national/local government and the library in Scandinavian countries. This example should be closely followed and studied by LIS planners in countries where the need for community information services is still very low.

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Community information in Canada was reported by MacFadden, Carson and Jackmann (1992). These authors reported on the development of Online Ontario, a regional automated network of community information services set up by the Association of Community Information Centres in Ontario. Interdependence of networks and data sharing characterised the distributed nature of the system, allowing participating libraries freedom to create their own community information resources independently according to their communities' needs and share resources as well. To date, results reported were improved data management and retrieval capability of shared resources. Clearly, the Canadian experience seem to be influenced by the access to information technology tools leading to the establishment of community information networks, as verified in the neighbouring USA.

The Australian experience is reported by Cameron (1988) and McGever (1990). Cameron (1988) reviewed the history of Melbourne public libraries, and distinguished them by two special services besides traditional ones. The first is a local government information library for council employees, and the second is an automated multilingual directory of local resources and institutions. Multilingualism was considered essential to reach out for the various ethnic groups living in the area, and the directory is distributed in the Melbourne area upon request. Both services are well regarded by local authorities and the public. McGever (1990) reported on FREE-INFO, a respected community information service for the city of Fremantle, in operation since 1979. Free-Info is basically made of files of local resources, social services, local institutions, etc. to the public, and is very popular in Western Australia.

In Ireland, Ballyum Public Library (Jones, 1991) promoted a co-operation agreement between the library and local organisations to supply free community information to the public, especially for legal advice, financial information and everyday needs. Results reported so far were positive, and the library had strengthened its role in the community as an information centre.

Finally, Harada (T. Harada et al, 1990) reported on projects sponsored by the Japanese government on community information systems coupling different sorts of information technology tools available, primarily envisaged for area management in buildings, i.e. control of public access to premises, car park maintenance, and crime prevention. Regrettably, the Japanese experience could not be studied more fully because of the language barrier: references to two other articles were found in LISA (Library and Information Science Abstracts) in Japanese language. Nevertheless, abstracts in English language highlight the support given by the Japanese government to the setup of sophisticated community information systems to anticipate a fully information-based society in Japan.

2.5.1 COMMUNITY INFORMATION IN PORTUGAL

Brazil and Portugal share historical ties and the language, for Brazil was a Portuguese colony from discovery by the navigator Pedro Alvares Cabral in 1500s to September 7th 1822, when independence from Portugal was declared.. Therefore, it is important to address in some detail the situation of Portuguese public libraries and their community information services.

Portugal, nevertheless, did not have much influence in Brazilian LIS. Indeed, quite the opposite took place, because for more than 300 years Portugal did not allow Brazil to have free press, universities and centres of higher learning and libraries in the fear that learning and information would foster libertarian ideals in the colony. Libraries in colonial Brazil could be found only in monasteries and in the homes of the rich. Only in 1808, when the Portuguese royal family took refuge in the colony to flee from the Napoleonic wars, free press, law schools and universities could be opened in Brazil. The first Brazilian public library was only founded in 1811 in Salvador, Bahia (Moraes, 1979), whereas the first Portuguese public library was opened in 1722 (Parker, 1986).

From independence (1822) on, Brazil did not look at the old metropolis as a model. Contrary to Portugal, Brazil was a young nation searching for autonomy, with no imperial ambitions overseas. Portugal, on the other hand, had been involved in internal revolutions from 1820 to 1851, when it created a liberal monarchy. In 1910 monarchy was overthrown to be replaced by a dictatorship in 1926. This dictatorship tried to overcome Portugal's poverty by building a new empire in Africa. Dictatorship lasted until 1974, when the return to democracy took place and with it a closer involvement with Europe (Birmingham, 1993).

Unfortunately, recent political and historical context affecting both Portugal and Brazil had some impact in public library services and community information. From 1964 to the late 1980s Brazil also lived under a dictatorship, which may account for the poor development of public library services and community information in both countries. It is well known that dictatorships enforce censorship, control and do not encourage dissemination of information, apart from the sources favoured by the rulers. This happened in Brazil, and examined in detail in Chapter 3.

Progress in public libraries in Portugal is also a recent phenomenon, and has been largely based on the principles of the 1972 UNESCO Manifesto for Public Libraries (Gill, 1994). Indeed, the first survey on Portuguese public libraries was carried out in 1982-83, and was aimed at identifying services, organisation, collections and housekeeping procedures. The survey concluded that the overall situation of Portuguese public libraries was far from satisfactory, and made recommendations to encourage the development of projects in

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chosen libraries, who, with the help of their local governments, would serve as a basis for the setup of a Portuguese public library system (Parker, 1986). No mention in this document was made to community information services.

Watkin (1992), in a extensive visit to Portuguese public libraries, reported that they were undergoing considerable development due to the Public Libraries Act passed on in 1986 and to the re-democratisation process started in mid 1970s. Incidentally, it was also in 1986 that Portugal became a full member of the European Community. The 1986 Act established a national library policy which envisaged the setup of a public library infrastructure based on the local authority area, i.e. the municipality. Again, no reference is made to community information as a priority. Whether it would be part of *'adult section - including periodicals (at all levels), lending and reference and information sections within the larger area'* (p74), it is not clear.

Summing up, this review of community information projects in the developed world illustrates that community information supply is widely provided. Highlights are the following:

1. The Scandinavian experience, which makes community information supply compulsory in public libraries by law, thus encouraging common practice and a quality service;
2. The Canadian network-oriented model as illustrated by Online Ontario, probably also influenced by the network-led and technology-oriented model of neighbouring USA;
3. Multilingualism as illustrated by the Australian experience of Melbourne to cater for the needs of that multicultural society;
4. The Japanese experience, which is also supported by the government and technology-led, nevertheless more concerned with security and management data for buildings.
5. Gradual development of Portuguese public libraries is still more concerned with traditional infrastructural issues, and did not include references to actual current initiatives in the field.

Nevertheless, the overall evidence seem to indicate that there is and will certainly be a place for community information supply in public libraries in the developed world now and in the coming future.

2.6 COMMUNITY INFORMATION AND INFORMATION TECHNOLOGY

There has been a close relationship between community information and information technology (IT) as far as public libraries are concerned in the developed world. When chosen wisely, information technology tools can be used to process community information data

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faster and more efficiently, such as in the case of data maintenance and updates of in-house community information files, as well as to provide a range of information delivery means for libraries to choose from according to their perception of their users' needs.

According to Bunch (1993), information technology has the following advantages to process and deliver community information data:

- 1. faster and more timely access to information;**
- 2. facilitate access to a wider range of information;**
- 3. enable more sophisticated access to information;**
- 4. enable more people to have direct access to information.**

Indeed, it is possible to trace the development of public library automation in some cases by examining the development of the types of delivery of their community information data, as follows:

a. *Use of mainframe computers* to process public library data, community information inclusive, with the mainframe in-house or external to the public library. This marked in general the beginning of automation in public library services especially in the late 1970s and early 1980s, when libraries did not have computers of their own and shared them with other organisations, such as their local authorities' facilities. This was the case of Lewisham (a London borough, UK), as reported by Hermann (1987), who used the local authority's mainframe to store information on local organisations.

Basically, libraries filled up forms representing each existing service in the library, community information files inclusive, which were batch processed overnight in the mainframe available to the task. Libraries received later resulting computer printouts corresponding to each task requested;

b. *Use of word-processing packages*: word-processing packages, i.e. softwares capable of processing written text, initially with little graphical and editing capabilities, have been around for many years and were fundamental to start office automation in many countries.

Their use is particularly important in public libraries, because it generally indicates that the library is experimenting with and putting to use an available software because it has acquired a computer for its own use. Many online community information retrieval systems started first as word processed lists of existing community information resources in card format, for example. These lists often evolved into local directories organised by main public libraries and shared/exchanged with co-operating libraries and organisations. supply. It must be

pointed out that word processors are a tool only for generating community information data.

c. *Videotex/Teletext/Viewdata* is both a generic term to: i) describe systems that use a modified television set to display information held in a computer and transmitted by various means, eg. broadcast TV, cable, telephone and ii) a broad term for a text and graphical presentation standard covering both interactive and broadcast (one way). Examples of videotex systems are Prestel (UK) and Minitel (France). Viewdata is a two way videotex system transmitted by telephone lines and supplied, for example, to private groups and/or local authorities. Finally, teletext is a videotex transmitted as part of ordinary television programme transmission, ex. BBC's CEEFAX, ITV's ORACLE. In the United Kingdom, it is common to find videotex/viewdata/teletext display sets sited in the reference section of public libraries.

Major advantages of viewdata/videotex/teletex for community information supply are currency, scope and comprehensiveness, as well as ease through a numeric keypad for interrogating the databases.

Major disadvantages are: dependence of public libraries on external agencies to organise, maintain and produce data, as users and staff can only consult the databases, not implement or suggest changes in the data. The second drawback is that searching may be easy, but tedious for the expert user, who will have to follow several screen menus before accessing the desired data. Nevertheless, this is a minor disadvantage, and in the existence of suppliers, viewdata/videotex/teletext can be recommended to complement in-house files of community information resources.

It is important to say that in the United Kingdom Prestel, a videotex system, was firstly introduced by British Telecom in the assumption that it would cater for a latent demand for information services delivered directly to the home. The initial expectation that millions of homes would make use of videotex services via home television sets proved to be a gross overestimate as assessed British Telecom (Hartley et al., 1990). This failure can be attributed fundamentally to the reason stated above, i.e. long and tedious browsing through a succession of screen menus until the desired information is spotted. Prestel did not become the mass media information supplier it was destined to be.

Nevertheless, since 1987 British Telecom has changed its approach to Prestel by adding to it information specific to particular market sectors targeted for development, such as banking, agriculture, insurance, microcomputing, tele-shopping and travel, among many others. It is this new type of service that seems to receive the approval of reference librarians in Britain as a valid source of community information data (Hermann, 1987) (Batt, 1992).

d. Electronic bulletin boards: to publicize library and community events, the first used in a public library in the USA being the Apple Bulletin Board System at the North Pulaski Library, Chicago (Robertson, S. 1986):

e. Online community information integrated with OPAC (online public access catalogue): consists of a community information module built into the standard library housekeeping/information retrieval software or as a separate add-on unit developed or customised to the library's needs.

In the UK, library automation suppliers such as GEAC and DYNIX offer their packages with a community information module, in a clear recognition of the importance of this library service as a standard application.

Advantages are freedom for libraries to define their own community information files, the definition and provision of enhanced access points and search aids by libraries, as well as independence from external community information data suppliers. Also, in this case maintenance costs and functionality for the community information files tend to be the same for the whole automated library system. System upgrading and malfunctions can therefore be done faster and more effectively.

Disadvantages are basically the limitations the system may already have, e.g. limited size for records, complex or user-unfriendly interfaces, lack of searching aids, etc. which in some cases may be very difficult or impossible to overcome.

More importantly, it should be kept in mind that although it is relatively easy and cost-effective to start an automated community information system by expanding the scope of the existing online catalogue in the library, community information data requires frequent updates. Therefore, data input require organisation and planning so that community information files are constantly monitored for accuracy and currency.

Finally, from the end users' standpoint, there is the requirement of keyboard skills to consult the databases, knowledge of the structure of the stored information, eg. terms used, etc., and the strict follow-up of menu instructions for the staff and library users alike.

The addition of community information files integrated to the online catalogue is, nevertheless, the more flexible IT application for the organisation, maintenance and dissemination of community information by public libraries, who can define, organise, customise and modify data according to their communities' needs. It is also the most cost-

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effective alternative, for expenses will be embedded in the library system maintenance routines.

f. Community host systems: these are co-operative host systems accessed through public libraries which then supply special information and/or services to relatively specific groups of individuals and organisations. Types of services include access to external databases, the facility to build and maintain databases on the host machines, word processing and desk-top publishing, electronic mail, etc.

It is important to convey that community host systems may not fit exactly into the classical definition of community information as fundamental information on everyday concerns and for the exercise of citizenship. Nevertheless, they are considered by public libraries who decide to make them available as a special public information service to groups and individuals in the community who would not be able to access or afford them otherwise.

Advantages for the individual user or organisation is cost, which is just a fraction of the expenses involved in purchasing a computer, along with peripherals, and database subscriptions. Examples for Britain: access to external databases: Bromley, Camden, Croydon and Sutton Libraries in London, via Dialog, DataStar, etc.; electronic mail and office automation: City of London, etc.

These are the most common uses of information technology for community information supply presently available. From this review, it is possible to affirm that in developed countries there has been a positive alliance between information technology tools and the organisation and delivery of community information services in public libraries. This partnership stemmed from the initial uses of mainframe computers and wordprocessing packages to process data, to teletext/ viewdata, expansion of the use of the online catalogue and the provision of specialist services delivered or accessed via a computer-held tool. Considering that access to IT has increasingly become easier and more affordable, it is possible to suppose that IT will continue to be used to process and deliver community information services in the public library and elsewhere.

2.7 LOCAL STUDIES

A second area of modern community-oriented information services available in public libraries in developed countries is called *local studies*. Although traditionally a separate field of expertise and services in public librarianship, local studies also tend to cater for community needs specific to a place and users. These information needs, nevertheless, involve past, present and prospective specific information requirements of a community.

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By definition, the Local Studies Group of the Library Association, UK, defines local studies as:

'The term "local studies" , as applied to library local studies collections, can be defined as studies relating to the local environment in all its aspects, including geology, palaeontology, climatology and natural history: also studies relating to all types of human endeavour within that environment, past , present and future' (Library Association Local Studies Group, 1990,p6).

To this definition it should be added that local studies in libraries also comprise information and library-based activities specific to a locality and users which may not be performed, collected, organised, retrieved and disseminated elsewhere.

It is clearly seen from this broad definition that local studies is a recent term to describe an interest demonstrated by librarians since probably libraries began (Nichols, 1979), and more. Local studies often is the fruit of a sense of pride,duty and belonging public libraries feel towards the people and their communities.

Formerly called *local history*, the change in terminology reflects the evolution of the field to include from remote of the past to current issues, and in special the organisation of local data/information not dealt with by traditional publishers and/or information suppliers. In this sense, the local studies library or section of a library constitute both a specialised information centre and a multifaceted special library.

It is also generally urban, stemmed from a special collection within the general reference library. Thus, the local studies library is the product of a community large enough to support it (Nichols, 1979). Ideally, it has the following resources:

1. All resources that contribute to the knowledge of an area in the past;
2. Material of use to a community in the present, and
3. Resources that will be source material for the future description and history of that specific locality.

The fundamental aspect of local studies resources is their specificity, i.e. local character: such resources are likely not to be found, collected, organised, disseminated and/or readily available outside the immediate community.

The value of local studies in libraries is not, therefore, restricted to a locality or people. Local literature and resources are part not only of the national history and tradition, but also constitute important sources of cultural, socio-political and economical data describing and reflecting the structure and values upon which that society lies. Indeed, the sum of relevant

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sources of local studies libraries in countries where library culture is well-established may very well exceed the collections of national libraries, especially for non-printed material. This is so because ideally the local studies library should serve the locality with the same manner a national library serves the nation (Nichols, 1979).

2.7.1 DEVELOPMENT OF LOCAL STUDIES

In developed countries, local studies in public libraries have grown from answering questions to amateur historians, academics and the occasional general user on family and local history, the arts, archaeology, vernacular architecture, etc. to include a variety of local issues, for example the countryside, special information services for segments of the community or region, etc. The reasons for this increased demand can be traced back to the last thirty years to the following developments:

1. Emergence of disciplines such as economic and social history, demography, historical geography, public administration and specific sociological studies, e.g. ethnic and minority groups in inner cities, etc.. This led to the integration of research, observation and practical work on local issues as part of a wider context;
2. Need to organise, access and disseminate local information requested or together with local authorities (government, cultural, educational, etc.). In the UK, for example, primary and secondary schools have adopted an interdisciplinary approach in which local studies are used as a basis for work in a range of subjects, including history, mathematics, English, arts, geography and environmental studies (Paul, D. 1989), in that children study their communities by comparing data from past and present;
3. Increased use of local information by especially the media, television and radio, with the making of programmes to celebrate events, profile local personalities, debate local issues, etc. In effect, as the world becomes a global village, there is an increasing need for local data as well;
4. Libraries' desire to serve their communities by providing specialised information services not found elsewhere;
5. Increased access to IT, e.g. computers, viewdata, audio visual equipment by public libraries, as well as the growth of electronic publishing. This allowed enterprising librarians not only to acquire and/or provide access to local data in different formats from hard copy, but also to experiment with IT devices by becoming specialised local data providers themselves.

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This review shows that in developed countries local studies services in public libraries constitute a natural development stemmed from the systematic organisation of locally generated sources by libraries, awareness of increasing information needs impossible to be satisfied outside the immediate community and the ease of access to IT tools which enables enterprising libraries more freedom to organise data and make them available to their communities.

2.7.2 THE LINK BETWEEN LOCAL STUDIES AND THE COMMUNITY

The link between local studies and the community can be shown in terms of its role 1) to ensure democracy and the safe implementation of social change; 2) to demonstrate the shift from monocultural control systems to multicultural ones, and 3) to represent sectors of the community which have been ignored or misrepresented.

Usherwood (1992) states that since the mid-sixties in Great Britain there has been an increased awareness of the importance of relating library services to the needs of the local community as part of the local democratic process, and that many of the most important information requirements people have are about local issues that affect their lives. He also argues that much of the political unrest observed at 'grass-roots' is often result of a lack of access to basic information. In many situations, people and communities need information before something happens, as in the case of influencing a proposed legislation.

Likewise, the understanding that each community may have different information requirements suggests that public libraries are moving away from a monocultural and monolythical control system towards a multicultural and more participative one (Weingand, 1994). The implication for the public library is that it will engage itself actively in the identification, response and design of user-oriented products, based on the study and analysis of the library's internal and external environments. This multicultural system encourages participation and co-operation among all sectors of the community and the library.

Finally, local history or certain highly specific information requirements of a community may have been ignored or misrepresented, i.e. case of ethnic minorities or particular regional characteristics. This is an area where local studies can address existing imbalances and cement relationships within communities, *'since a community which is secure in the knowledge of its past [and present specific needs] is more likely to view its future with confidence too'* (Coleman, 1992, 306p).

2.7.3 LOCAL STUDIES IN THE UK AND USA

The wealth and variety of British and American local studies projects in public libraries, i.e.

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oral history projects, collection of ephemera, video history, etc. , required the establishment of some restricting criteria for this literature review. Thus, in accordance with the main thrust of this research project, i.e. the suggestion of a model for community-related information services for public libraries in a developing country like Brazil, the present review is mostly concerned with the report of projects involving automation of local studies services and unique initiatives as a whole.

Carr (1988), of the Department of Shropshire Libraries, UK, reported on a database for accessing and retrieving data of the county's vast collection of material dating from the 12th to the 20th century. Beforehand, documents had been calendered in a numerical sequence, but each of the fourteen volumes of this historical collection had to be examined for follow-ups or relevant references. Thus, the collection was underused, because consulting the existing indexes was a lengthy process. With automation, fields were created to define the nature of document, places in the county, names of people referred to, occupation of parities, character of property, subject of the document, reference number and year, therefore making much easier the task of consulting this important source of local data. The database and computer index is seen as a very useful device to give access to this historical data and to provide faster and more effective searches.

More recently in the USA, Randall-Jones (1992) reported on the use of the software package INMAGIC, produced by Inmagic Inc., and used by Weston Public Libraries, Massachusetts, to index their local studies collection. The software differs from traditional database management softwares in that it does not require a fixed length of characters per field, and from full-text systems, as it uses fields to distinguish between various types of information.

Any review of local studies projects should include the role of the Local Studies Group of the Scottish Library Association (LOSCOT) to promote improved local studies services (Dunsire, 1990) LOSCOT has developed SCOTLOC, now released in an improved version 2, and it is basically a microcomputer package which allows easy and flexible retrieval of bibliographic information on Scottish local studies. The program has the format of a directory of materials, such as texts, maps, prints and postcards produced by Scottish public libraries. Data can be searched by title (acronym search possible), by up to three words (with full truncation) in the title or publisher name, and by keywords via a thesaurus. The program requires a standard IBM PC (XT,AT,PC/2), or compatible, and in terms of space it requires only one megabyte for the SCOTLOC program, databases and indexes. The fact that it is released by the Scottish Library Association at a reasonable price (£30,00 pounds sterling for individual users and £125,00 pounds sterling for corporate subscribers: figures for 1990), make it very attractive. Thus SCOTLOC seems to be a sound proof that it is possible to think on automation for local studies within a long term and market-driven framework.

Batt, MacDonald and Scott (1993) reported on defining the requirements and system selection for MUSLS, a multimedia and multidispline local studies library and museum database which is being developed in Croydon (UK), opening scheduled for 1994. The system is intended to meet the requirements of three service groups, namely museum, local studies and archives. This project is particularly interesting because it shows clearly an integrated form to deal with wider resources for museums, local studies and archival information supply. Furthermore, a joint database enables improved collection management, as all existing resources can be mapped out, maintained, reproduced and discarded when need be.

This last example shows a trend towards integration of all resources (public library's, museum, archives, etc.) for local studies so that the existing material can be used and managed to the fullest, as stated by Fisher on the Glasgow Room, of Glasgow District Libraries, Scotland (Fisher, 1985), and Graham reporting on the Centre for Oxfordshire Studies (Graham, 1992). Both centres act as a gateway to local resources, and in Oxfordshire, the heart of the service is the Local Studies Library. Despite the fact that Graham did not mention any current automation project in the Centre, it also handles resources so that they can be easily mapped out, controlled and discarded when need be. Indeed, what seems to be put into practice in this case is the creation of a comprehensive record of local studies resources, the first and very necessary standardisation step for resources sharing.

This review shows that local studies services in the United Kingdom and the USA are well established and have been increasingly provided by making use of IT tools to process and deliver data to users. By and large, automation has been mostly used by local studies in public libraries to design bibliographic databases for existing local collections. This can be considered a natural and positive development due to the fact that public libraries in these countries have been collecting and organising local bibliographic resources since their beginning, and so these databases are invaluable to complement national bibliographies. Moreover, communities in the USA and UK are well provided by an active publishing industry that caters for special local information needs. In this context, the local studies library tends to provide either a service to cater for an unfulfilled need or to complement a service already provided elsewhere.

2.7.4 OTHER LOCAL STUDIES PROJECTS

The review of local studies projects in public libraries in developed countries other than the United Kingdom and the USA worldwide reveals that in most cases local studies initiatives

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are a recent phenomenon, either discussed at the organisational/planning stage or very much linked to the collection and organisation of local history material pertaining to immediate communities and/or regions.

Alain Girard (1993) of the Bibliothèques de la Ville de Caen, provided a detailed account of local and regional studies in French public libraries during a seminar organised by the Local Studies Group, London in 1993. Not surprisingly, he states that although local studies collections seem to be part of public libraries in France, there is but slight bibliographic evidence of local and regional studies in that country. He goes further to say that *'in this essential field, we have at our disposal no teaching material or doctrine of library science; very few articles have appeared and no national and regional survey exists to help the lecturer'* (p2).

Nevertheless, different actions undertaken by various regional and city-based public libraries seem to bring new light into the supply of local and regional information services, and some of these are: 1) a joint acquisition plan for publications for participating public libraries under the auspices of a regional agency, ex. the region of Burgundy; 2) the extension of the regional copyright deposit to include multimedia documents; 3) possibility of consulting online catalogues via Minitel terminals in service in France, such as the case of Caen libraries and since 1983 the regional bibliographie of Alsace, and 4) the preservation and restoration of regional periodicals and pictures from the origins to 1945. This last initiative is funded by local governments, and some regions are already producing videodiscs of their pictorial collections, which can also be used as union catalogues (Rhône-Alpes, Alsace, Aquitaine and Poitou-Charentes). Therefore, although the author seems to regret the late start of local studies awareness in France, local and regional initiatives have demonstrated an enormous effort not only to catch up with the theory but also to advance in the practice to include uses of IT to process image and text, especially for pictures and periodicals and online access to library holdings nationwide.

Also at the organisation and planning stages are the local studies initiatives of Sicily and Spain. Mike Petty, local studies librarian of Cambridgeshire Libraries (1984), reported on a joint meeting of archivists, curators, historians and librarians in Sardinia. The meeting was organised to discuss the problems involved in the transition from local history to local studies and the infrastructural needs implicit in this move. The curious finding was the evidence of co-operation in Italy that financial organisations have with libraries: many local history publications are financed by banks and other corporations, thus allowing magnificent productions at minimal charge. Also in Sicily, the local radio broadcasts history programmes which are very popular. Local libraries, nevertheless, do not have local collections.

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The Spanish experience, as reported by Bailac (1992) shows that organisation and planning of local studies activities have advanced to further development stages. Bailac (1992) reported on a survey of local studies activities, the making of guidelines for local studies supply by public libraries and a case study for the Public Library of Barcelona. Basically, the Local Studies Group in Catalonia was founded in 1987 to provide a unified approach to local studies issues. It soon proceeded to survey current procedures, an essential step before the making of national guidelines for local studies supply in Spain.

Survey results showed that 89% of public libraries surveyed had local studies collections, none staffed with a full-time qualified practitioner. Collections started being built in the 1970s-1980s, and resources were largely obtained by donations, which included audio visuals in representative numbers. Co-operation was largely with local archives and museums. Almost no publicity was used, although exhibitions were part of ongoing activities of many libraries. The survey stated that local studies should be seen as part of the public library, as well as a specific department to minimise budget deficiencies, maximise services and use of resources. There was also the need to develop a more community-oriented philosophy for local studies, whose main concern so far had been only preservation of rare collections.

Guidelines for local studies supply in Spain were still being drafted. The main points, nevertheless, consisted of collection building for specific localities, inclusion of any form of material of local interest, organisation and accommodation of resources and user services (namely historical data and library resources).

To illustrate the Catalan experience, the case of Gracia, a public library of the Barcelona district was introduced. After ten years of intensive work, the main problem identified by this library was collection maintenance. Reasons presented were the vast amount of material produced in the district, lack of space in the library and personnel. Nevertheless, action was being taken to solve these pressing issues, and a success story was a meeting with local associations to prevent document duplication and foster co-operation links. This effort evolved to become a joint initiative linking the library and local organisations. In short, the seeds for resources sharing of local resources seem to have been planted in that community.

Local studies projects in Australia were reported by Dewe (1993), and are also a recent phenomenon. Basically, after World War II there was little interest in local history resources. This started to change by the Horton Report in 1976, which recommended that Australian public libraries should create local history collections. Subsequently, the Australia Library Association issued Australia's Policy and Planning Guidelines for Public Libraries in 1984. A survey on local studies collections in the same year showed that some were as old as 40 years of age. Thus, there were some fairly long established local studies resources in the

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country.

Although by the 1990s the value of local studies was indisputable, as Australia was impelled to retrieve her history due to nationwide events such as the Australian Bicentennial, still much has to be done. The Australia Library Association (ALIA) and the Local Studies Group of New South Wales, nevertheless, have been active to promote awareness of local studies initiatives. All in all, there seems to be a foundation for the growth of local studies services in Australia. This constitutes a positive example to be followed by other young countries, whose written history and memory is fairly recent if compared with Europe or Asia.

No references to local studies projects in Portugal were found in the literature, although Watkin (1992) mentioned that business information services in public libraries should be developed.

Finally, the Scandinavian experience in local studies is comprehensively discussed by Thorhause (1988), and although it likewise places emphasis on local history collections, it refers to current sources of local data as well. Laholm (Sweden) is considered standard for local history provision, and the its comprehensive collection - almost a library within a library - includes historical, topographic and current material. One of the fundamental concepts in Laholm that shows the service's commitment to local studies supply is '*local information which is current today is history tomorrow*'. In Norway, the same author reports that in Nord-Trondelag a number of libraries are collaborating on a database for social issues and directories of local resources.

This last Norwegian example may point out to the fact that there may be an overlap between community information and local studies data, although by definition community information is concerned with fundamental information on rights and everyday concerns, whereas local studies pertain to data related to the past, present and future of a community likely not to be obtained elsewhere.

These examples illustrate very well that outside the United Kingdom and the USA local studies constitute a relatively recent development, still being discussed at an organisational level. The main concern stated by the French, Spanish and Australian experiences referred to the preservation and retrieval of local history collections held by libraries. The Scandinavian experience, on the other hand, revealed a broader approach to local studies supply attuned to the past, present and prospective information needs of their communities. This is the goal local studies in public libraries should strive to attain, as demonstrated by the North American and British examples.

2.7.5 LOCAL STUDIES AND INFORMATION TECHNOLOGY

Although local studies collections and sources can be systematically organised, accessed and delivered to users without the use of information technology tools by simply following the standard practices established for supplying special/quality reference services in libraries, the specific characteristics and uniqueness of local studies resources make them ideal for use and delivery by various information display, access and reprographical devices.

The following information technology (IT) tools have been widely used for local studies provision in public libraries in developed countries:

1. *Reprography by microforms and photocopying*: increasingly, more material is available in microform, such as census returns, local newspapers, etc. Likewise, the availability of microfilmed resources avoid wear and tear of valuable originals, whereas the photocopiers may provide users and personnel with an endless source of data with storage savings, e.g. case of ephemera;
2. Recording, collection and publication of oral testimonies, known as *oral history*: particularly valuable for historical and contemporary information. Public libraries' involvement is done by recorded interviews, by becoming a repository for tapes and transcripts made by others, or by providing resources to aid the recall process. The British experience already in 1984 indicated that about 38% of public libraries were involved in oral history projects (Dewe, 1987);
3. *Video recording* is an attractive and cost-effective option to register life in the community, the arts, disputes, urban development, as well as one-to-one interviews with local personalities, data whose visual evidence may be invaluable for future generations. Equipment availability is essential, but the flexibility and ease of use of video recorded material makes the alternative suitable and adaptive to local studies provision;
4. *Videotex/teletext/viewdata* (private or government-funded): In general private suppliers are considered more useful for local studies supply in terms of data content, currency and user-friendliness (Hermann, C. 1987) than local authorities' products. Private suppliers in general customise products to an area or group of users, therefore more likely to meet expectations and standards of service desired (Batt, 1992). The shortcoming of viewdata/teletext/videotex for local studies supply is the carrier role performed by the library, which only provides access to information, but is not able to create, add or modify data in any sense.
5. Computer technology, offering a potential wide range of tools especially suitable for local studies supply, ranging from:

- a. Creation of databases for a multitude of purposes (bibliographic, local studies collections, special databanks targeted to segments of the community or services, etc.). Such local resources databases can be invaluable sources for national bibliographies,. for example;
- b. Tool to analyse data stored in machine-readable format, i.e. the use of statistical packages to help analyse local censuses, parish record, etc.;
- c. Storage and retrieval tool for visual information, i.e. maps and photographs, which can also be coupled with text. Software suppliers, such as Documedia, have been working with image/text processing packages, which may be expensive, but suitable to handle rare and valuable visual material;
- d. Computer technology has also incorporated sound to image and text handling, although no such use for local studies supply in public libraries was recorded in the literature.

In short, IT tools seem to be advantageous for local studies supply by public libraries. As for community information, it is possible to say that there is a positive alliance between IT and the organisation and delivery of local studies services. Most common uses vary from simple reprographical tools such as photocopy machines to computer-held devices for the organisation of bibliographic databases for local resources, statistical packages to analyse data of local relevance, to audio visual devices for oral history purposes. The key issue is that their introduction in the public library environment should be done with sound planning so that the unique sources and resources that make up a local studies collection can be systematically organised, made available to users, and preserved in their integrity, once these may not be likely to be found elsewhere.

2.8 PUBLIC LIBRARIES AND COMMUNITY-ORIENTED SERVICES

The literature review shows clearly that community information and local studies services in developed countries constitute a logical and natural development of public librarianship, whereby libraries reach out for their users by organising and making available data on basic information needs, rights, special interest and local data likely not to be found outside immediate communities.

Reasons for the move to include community-oriented services to traditional library practices are many: the acknowledgement of information as a fundamental right to citizenship, need for guidance on the complexities of the welfare state, more participation from special interest groups in the decision-making process and the realisation that all segments of the community need to be represented for full participation in the democratic process.

Public libraries have been therefore increasingly providing community information and local studies in response to their communities' needs unfulfilled elsewhere and/or to complement a service provided by other agents in the community. To organise and deliver data more efficiently, information technology tools have also been used, as they enable ease for data handling, especially in terms of updates and alterations, flexibility for libraries to create systems that reflect their perception of community-oriented needs, as well as more attractive delivery devices to users. Moreover, the provision of community-oriented services led public libraries to seek a closer involvement with a wide range of organisations, such as government and local authorities, self-help, welfare, pressure and minority groups, as well as the general public and community information gatekeepers.

Community information and local studies in public libraries share the following characteristics:

1. Community information and local studies belong to special reference services traditionally made available by public libraries;
2. Both try to respond to specific community-oriented needs, be it in terms of fundamental information on rights or locally generated data likely not to be found elsewhere the immediate locality. In some cases, community information and local studies may well overlap. Ex.: community host systems accessed by users via public libraries in the UK are listed as community information, but they could be well be described as a service to specific groups in the community and as such be also a local studies services;
3. Community information and local studies see communities as a mosaic where all compounding elements should be given representation. This approach demonstrates a shift from a monocultural control system to a multifaceted and more participative one;
4. Although community information and local studies can be provided without the use of information technology tools, IT devices have been increasingly used to process and deliver community information and local studies data in various formats. This has been a positive alliance, which tends to continue in developed countries worldwide.
5. Co-operation with community groups, national and local government has led to a broader definition of community information and local studies more accurately termed '*information for the community*' (Coleman, 1992). Within this context, services may not necessarily be provided in the library, who nevertheless will lend its specialist skills, collection, information organisation and dissemination in the appropriate community venue.

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The review of community information and local studies projects in public libraries in developed countries worldwide also highlights the following facts:

- a. The British and North American models for community information supply clearly stand out worldwide. The British model is strongly based on the build-up and availability of local resources files and self-help collections for community information and local studies, aimed at informing users and supporting actively existing aid/help/advice agencies and the long-standing voluntary sector. The American experience, on the other hand, focuses on active referral (advice giving, counselling, steering for action), and is also strongly technology-led, emphasising the setup of automated networks via extension of existing online public library catalogues;
- b. The Scandinavian experience in community information supply should be referred to, because the service is by law supplied by all Scandinavian public libraries. Also the Scandinavian model for local studies supply should be mentioned, especially because initiatives have focused on profiling specific sectors of the community and to design local information services attuned to local needs;
- c. The Japanese experience also shows growing government involvement with information issues to equip Japanese society to the information-based age;
- d. Local studies in American and the UK involve a wide range of activities, from local history projects to services to specialist community segments. Many projects involve use of information technology tools for the organisation of bibliographic databases, oral history, analysis of local data, etc.;
- e. Outside the United Kingdom and the USA, local studies activities seem to be at the planning and awareness-raising stages, with initiatives worldwide (France, Spain and Australia) still very much linked to the organisation and retrieval of local history material.

It is clear from these examples that public libraries in developed countries have realised and taken responsibility for their role in supplying users with basic information for them to keep up the pace with increasing needs of the information-based stage, access local data not available elsewhere and establish co-operation links with several organisations in the community. Information Technology tools have contributed to make this task more effective from Europe to North America, Scandinavia and Japan, because their use is based on a sound philosophy of service that public libraries are much more than book storehouses. The existing public library infrastructure and access to information technology tools in some of

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these countries have sown the seeds not only for local information services, but also to community-related information networks linking participating libraries.

All these developments place increasing importance on community-oriented services, and a revival in the true function of public libraries in society, namely the supply of information to guarantee the orderly implementation of social change, availability of sources so that the right to know is exercised by all and encouragement of continuing education at all levels.

CHAPTER 3

COMMUNITY INFORMATION AND LOCAL STUDIES IN DEVELOPING COUNTRIES AND BRAZIL

3.1 INTRODUCTION

This chapter covers the review of community information and local studies in public libraries in developing countries and Brazil.

Firstly, community information and local studies projects in developing countries are presented. Secondly, community information and local studies in Brazilian public libraries are reviewed. The data is interpreted in terms of the historical, economical and political factors that led to the low recognition of these fields until recently in Brazilian public librarianship.

Finally, the case for a community-related information supply, i.e. coupling community information and local studies, integrated to traditional services is suggested for public libraries in Brazil in order to provide a much needed public information service to users and adequate Brazilian public libraries to developments in the field worldwide.

3.2 COMMUNITY INFORMATION IN DEVELOPING COUNTRIES

The literature review shows that there is some awareness of community information issues, needs and some isolated initial community information projects in developing countries, but automation is hardly mentioned.

The majority of developing countries already discussing community information issues seems to be largely influenced by the British approach to community information supply based on the systematic organisation of community information files, i.e. directories of local

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organisations and contacts, mostly online and collection building in areas of fundamental public concern. This is rightly so, because identification of users' needs and organisation of resources constitute infrastructural issues not only for public libraries but also for the setup of information systems as a whole in developing countries.

The reason for the prevailing preference for the British approach to community information supply may also be attributed to the long standing links some developing countries have maintained with Great Britain from colonial times onwards. Developing countries like South Africa, Nigeria, India and Jamaica were all part of the British Empire once, thus likely to be more attuned to British than North American ideas.

Information and referral according to the North American model linking the user to sources external to the public library was hardly mentioned. This may be attributed to the fact that in developing countries referrals to sources, institutions or contacts may not be always feasible or possible, or may belong to a further stage of community and social organisation. It must be borne in mind that in many developing countries contacts, local information sources and institutions taken for granted in the developed countries, i.e. consumers' councils, ecological and human rights agencies, may be lacking, too under-resourced or even unaware of their fundamental role as information providers to their communities.

The following reviews community information projects being undertaken in developing countries:

*** SOUTH AFRICA**

South Africa is by and large the most active developing country promoting theoretical and practical work in community information issues. As early as 1981, Wells (1981) was already introducing the concept, objectives and development of community information services and examining the possibility of providing them in that country. The British approach to community information services seems to be favoured by this and other South African practitioners as well..

Garish (1987), Cilliers (1987), Malan (1987) and Swiegelarr (1988) reported on guidelines for community information provision for South Africa. Fundamentally, community information services, which had just begun in that country, are dependent on profiling community needs, ex. via surveys, statistical data, etc., planned experimentation with information technology, methods of organisation, classification, indexing and abstracting. Cilliers (1987) went further to add the advantages of automation for community information supply in South Africa, whereas Swiegelaar reported on two courses organised by Cape Provincial Library on

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community information, as well as this library's support for the acquisition and distribution of non-book material as community information resources. These references centred mostly on theoretical issues.

Whilst theoretical issues seem to be main concern, some practical projects are also reported. Marsberg (1989) writes on the history of King William's Town Public Library, mentioning briefly their community information service, which organises directories (files) of local resources, institutions and contacts for community information needs.

Roux and Rykherr (1991) reported on the making of a thesaurus for community information developed by the LIS school of the University of South Africa in Pretoria. This project had as a follow-up the creation of an automated directory of services and agencies for the community of Pretoria, as reported by Roux and Pearce (1991). These two last projects show continuity, a very important component of community information services, which may be relatively easy to start, but difficult to maintain, especially in terms of keeping the data up-to-date.

More recently, September (1993) reviews the changes taking place in LIS in South Africa as a result of the socio-political process the country is undergoing and how community information supply in the local public library could contribute to meet the not only the needs of the disadvantaged, but also of whole communities in a post-apartheid South Africa. He postulates that the South African Institute for Library and Information Science should accommodate involvement and impartiality in the provision of community information services within a professional philosophy to raise the profile of the profession and prevent internal splits among LIS-related associations.

Not surprisingly, Mr. September's views could also be applied to Brazil and to other developing countries undergoing change. It is in these countries that the response of public librarians to community information needs could make a contribution to ensure access to data necessary for the orderly implementation of social changes to help sustain democracy and the most fundamental rights in these societies.

*** NIGERIA**

Three isolated references were found in the literature by Nigerian practitioners (Igbinosa, 1986; Mohammed, 1986, and Chijioke, 1989). They dealt chiefly with introducing the concept of community information according to the British experience, statement of general need for community information services and recommendations for further work to bring community information issues to the awareness of Nigerian public. Chijioke (1989) went

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further, and suggested that a programme for developing community information centres for both rural and urban areas should be integrated to multipurpose community libraries to bring public library services closer to the needs of Nigerian people. She also recommended changes in the library and information studies curricula to train community information personnel.

No attempt was made to introduce a concept of community information specific to the Nigerian context, and this may indicate that these practitioners find the prevailing concept of fundamental information to solve everyday needs and information for the exercise of citizenship adequate to the Nigerian context. The new elements introduced in these articles, nevertheless, constitute the equal emphasis placed by these authors in supplying community information services for rural and urban communities, the recommendation to use non print media to reach out for a wider public and training for community information in LIS schools.

The provision of community information services for urban and rural communities constitutes a fundamental issue for the development of public information services in developing countries. It also requires long term planning not only in terms of the library and information issues involved, but also to tackle infrastructural problems, such as coverage of the continental distances implicit in the term rural areas in developing countries, resources building and staff training. The use of non print media to reach out for a wider public and staff training, on the other hand, shows that Nigerian professionals are aware that perhaps non print data would be beneficial to inform, educate and reach out for the information-poor and the illiterate population, and that training is a major issue to be discussed and implemented.

On the whole, references by Nigerian professionals raised were theoretical issues. No current project was recorded to substantiate the points made.

*** INDIA**

Baliarsingh and Mahapatra (1987) reported on the concept; origins and aspects of community information as found in the British and American literature, discussed basic aspects of community information and information seeking situations, as well as the need for the service in public libraries. This was a theoretical article. Authors stated that community information provision in Indian public libraries could be articulated to answer communities' needs in a country whose complex social diversity and classes would justify such approach to information supply via users' studies and build-up of local resources. Authors finished with a general statement on the need for information supply as a matter of public concern so that people could become more involved in the political decision-making process that affect their lives

*** JAMAICA**

Redway (1991), reported on a pilot project commissioned by the Jamaica Library Service in 1989 to identify the main information needs of users in a Jamaican community. This pilot project would serve as a basis for the outline of an effective community information service to be applied in a wider scale in Jamaica. The experience was considered positive and expected to be continued.

*** COLOMBIA**

Finally, Restrepo (1990) reported on the setup of a National Information Service by the Colombian government on welfare benefits and family services. To this end, welfare and family benefit officers are working through public libraries to improve the quality of life of communities. This project emphasised the important partnership government/public library/community for the provision of fundamental data on needs and rights.

Therefore, the literature review of community information initiatives in developing countries shows the following:

- a. There is some awareness of the concept and the need for community information services in some developing countries;
- b. Community information issues have been approached mostly at conceptual and awareness-raising levels only;
- c. Practical initiatives are isolated and a few;
- d. Latin America seems to be far behind, with only one project in Colombia. Nevertheless, this isolated project mentioned an interesting partnership between the federal government and the public library system for the provision of information on welfare and family benefits to improve living standards in Colombian communities;
- e. Automation was hardly mentioned.

It seems therefore clear that community information services in public libraries in developing countries have yet to be fully developed.

3.3 LOCAL STUDIES IN DEVELOPING COUNTRIES

The case for local studies services in public libraries in developing countries can only be argued in the light of experience recorded elsewhere, because evidence on local studies librarianship is largely missing in the literature.

Mahajan in India (1990) briefly reports on a first seminar on local studies librarianship, where

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issues were raised to encourage the awareness of local studies issues and to recommend the following:

1. Organisation of local studies in universities and other types of libraries to write a national history of India;
2. Appeal for government support and communities to build local studies collections;
3. Recommendation to purchase a specific collection as a nucleus for the host city's local studies collection;
4. Union Catalogue of Newspapers and indexes to newspapers should be produced;
5. Preservation of landmarks, which were being destroyed by rapid urbanisation and building activities. Photographs should be taken and history of such landmarks kept by local authorities;
6. Short term trainings, seminars and workshops on local studies librarianship organised by LIS institutions and similar agencies;
7. Development of oral history, and
8. More participation of Library Associations to encourage local studies activities.

No more references to local studies in public libraries were recorded in the literature to date.

The question that comes to mind when examining this lack of recorded evidence is whether local studies should be encouraged in developing countries as part of public information services. To attempt an answer to this question is no easy task. Again, we are required to look beyond the surface of data found in the literature and disclose the clues for the pressing unacknowledged need for local studies activities in libraries in the Third World.

In Chapter 2, local studies was defined as *studies* related to the *local environment in all its aspects*, including geology, palaeontology, climatology and natural history; *studies relating to all types of human endeavour within that environment*, past, present and future, as well as *information and library-based activities specific to a locality and users* which may not be performed, collected, organised and disseminated elsewhere.

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Bearing in mind this definition, studies related to local issues, types of human endeavour and information and library-based activities specific to a locality and users not found elsewhere should be seen as a foundation for developing countries to organise and implement their own public information systems based on the identification of local needs and indigenous resources to meet these needs.

Furthermore, although not referred to as local studies, the systematic organisation of local data and a capacity for libraries to develop local information resources have been mentioned by international IS organisations and experts whenever they suggest guidelines for the setup of information systems in Third World countries. To illustrate this statement, the following indirect references to local studies are recorded in the literature as a precondition to build a national information system capability:

- a. The systematic organisation of information already available in each country, especially the locally generated information (Martens, E. 1989);
- b. The organisation of each country's own storage of information and the development of systems to maximise the utilisation of each country's own storage of information resources (Woodward, 1980);
- c. *'It will be of great importance therefore for libraries to develop a capacity for small scale production of information resources which will breach the information gap which foreign publications can never be expected to fill...'* , statement by Mchombu (1990, p10), commenting on African librarianship and how it could contribute to help solve the information gap.

Indeed, specialised LIS agencies with large tradition in supporting library and information projects in developing countries, such as UNESCO (the United Nations Educational, Scientific and Cultural Organisation) and IFLA (International Federation of Libraries and Archives Association), have increasingly placed emphasis on the establishment of a national information system capability based on the organisation of local information resources at national and regional levels. UNESCO's role has been particularly remarkable through its various programmes and subprograms within NATIS (National Information Systems) and more recently its PGI - Programme General d'Information (General Information Programme) (Roberts, 1988) (Parker, 1985) to enhance the capacity of Member States to handle, transfer and share information resources, starting at the local/regional level.

Finally, it should be understood that the organisation and supply of locally generated data

likely not to be found elsewhere can contribute as a tool to plan for the economic and social development of Third World communities, as well as to preserve and disseminate social, historical and cultural data for present and future generations. The identification, systematic organisation, access and availability of local data in this sense should be seen as a precondition for decision-making and a solid foundation upon which socio-cultural and economic problems can be tackled in many developing countries.

In short, despite the lack of recorded evidence and based on the reasonings introduced by the above mentioned statements, it seems that there is a demand for local studies in developing countries, Brazil inclusive.

3.4 COMMUNITY INFORMATION IN BRAZIL

Recorded evidence shows that community information in Brazil is a recent phenomenon. Nevertheless, as the country embraces democracy after more than two decades of authoritarian rule, thus facing structural, socio-economical and political changes, information on individual rights and everyday concerns may be fundamental for Brazilian society. In this section, initiatives on community information in Brazil are presented.

3.4.1 CURRENT COMMUNITY INFORMATION PROJECTS

The first reference to community information in Brazil is found in Costa et al (1984), reporting on a research project carried out by lecturers and graduate students of LIS, Social Sciences and Education of the Federal University of Paraiba State to identify users' needs, cultural features and population groups for the setup of a *utilitarian information centre* in the public library of the municipality of Santa Rita, Paraiba State. The report covered preliminary result findings, and should form the basis for the second stage of the project.

Primarily, the analysis of this article and project is complicated by the fact that there is no attempt to define the fundamental focus of the project, i.e. the concepts of utilitarian information and utilitarian information centre. The text simply states that:

'Today there is a concern among librarianship theoreticians to involve the library in social community programmes especially for the less privileged. It is well known that this population does not have access to information needed for its development. Thus, UNESCO' manifesto for public libraries considers fundamental the role of public libraries in the community, and encourages principles towards satisfying users' information needs. In this context, it is essential that each society determine what their needs are regarding utilitarian information' (Costa et al, 1984, p180),

and proceeds to report on goals and results aimed for the project.

The above quotation brings to light the following issues:

1. In the lack of a concept for community information and services within Brazilian LIS, the concern to involve libraries with their communities in 1984 in Brazil was restricted to a social service rendered by the library to the less privileged in particular;
2. This concern still belonged to the domain of Brazilian LIS theoreticians;
3. Awareness of the need for a close involvement between libraries and their communities was not indigenous, but brought about by influential international organisations, such as UNESCO;
4. Finally, as the function of public libraries for providing utilitarian information is of social compensation or provision of a social service, the last statement shifts the responsibility for defining useful information needs to society. The point that seems to be missing is the role of library and information studies and their practitioners in identifying, organising and making available utilitarian information for Brazilian users as a whole, not only to the less privileged. The identification of utilitarian information needs as defined by users, the systematic organisation and access to utilitarian information data constitute fundamental domains of expertise of LIS professionals on behalf of society.

Secondly, as concepts and aims for this project are either unclear or too broad, the focus is lost, and the analysis of results is equally difficult in terms of LIS. Researchers placed much emphasis on social problems inherent to that specific community, i.e. lack of police, sanitation, water and sewage, crime, street lights, etc. and not on how a community information service in the local public library could aid the community to solve the social problems identified, claim benefits, etc. The four final recommendations drawn involved work with schools in the borough, information programmes in priority areas, continuing education in the community centre and the organisation of campaigns for health, sanitation and anti-violence. In other words, recommendations were not centred on creating an infrastructure for community information supply via the *organisation* and *dissemination* of utilitarian information, but on *taking action* to solve local social problems.

Although no other specific reference on the follow-up of this project was found in the literature, Polke (1991), in a paper delivered at the 45th FID International Conference in Cuba and later published in a publication entitled Informacao e Sociedade, reported that the Federal University of Paraiba had recently carried out six projects at the Popular Centre for Useful Information based in a disadvantaged local borough 'to demonstrate a reciprocal relationship between popular library/information centre so that information becomes a means

for raising awareness, unlocking creativity and improving groups of children and elderly people, using local knowledge and skills for developing information resources geared to actual everyday life.' (p99).

It is certainly praiseworthy the dedication of the Federal University of Paraiba to pursue community information issues by emphasising action to solve pressing needs in the community. Nevertheless, the statement quoted above misses again the full extent of community information supply as a means for people to solve everyday problems and participate in the democratic process. It fundamentally leaves unanswered the following issues: what sort of information raises awareness of what, and how information will unlock creativity for the elderly and the young.

Private correspondence between the School of Librarianship of that university and the researcher brought to light the fact that Utilitarian Information is a major field of research for obtaining the degree of Master of Science in Public Library Studies and Management offered by that establishment.

Badke (1986) does not mention community information or utilitarian information, but referral when reporting on a project for the setup of a centre at the Jonice Tristao Foudation designed to store all information related to the state of Espirito Santo. The term *referral* is not accurate, because the text states clearly that the centre was aimed first at gathering, maintaining, processing and disseminating data on this Brazilian state, only mentioning ease of access and use of documents concerning Espirito Santo state. Clearly, this centre is envisaged as a traditional reference centre only. No reference was made to the core of referral, i.e. the location of information sources (experts, institutions, other libraries) and supply of information about access to sources of information (Finer, 1979).

Literature findings show that community information starts to be defined in Brazilian LIS in 1989. In her dissertation for obtaining the degree of Master of Science in Librarianship at the University of Sao Paulo, Ferreira (1989a) defines community information and referral. The title of this dissertation is 'Reference services: character and concepts', demonstrating that conceptualisation for reference services as a whole was yet to be developed in Brazilian LIS. The author favours the North American terminology of Information and Referral, I&R.

The critique that should be yet made to this pioneering work is the emphasis placed on the referral component, i.e. directing the user to sources of information external to the library, and the use of the term 'utilitarian/useful information'.

Considering the early stage of community information services in Brazil, referral should be seen as a further stage of community information development. Indeed, it would be more appropriate to advance on the classical framework suggested by Woodward (1980):

- a. The systematic organisation of community information sources already available in Brazil, especially the locally generated data, starting with collection building by libraries;
- b. The improvement of access to regional/local information via the setup of local resources files by libraries;
- c. The co-ordination of existing and future community information services to make full use of limited resources. This co-ordination should start at local level first and then proceed to regional/national levels..

This can be seen as the foundation for the build-up of a national capability for community information supply by Brazilian public libraries. Moreover, in a developing country like Brazil, with an incipient voluntary sector, non profitable agencies and learned societies, referral may not be either possible or bear the results it does in the developed world.

It could also be argued that the term *utilitarian* or *useful information* should not be recommended, for it is implicit in it a judgement value: how utilitarian or useful community information can be is not for the LIS practitioner to decide. Instead, a LIS practitioner involved with community information supply in Brazil should organise and make available data to help communities and individuals to solve daily information needs and participate more fully in a democratic society. Community information, on the other hand, implies the idea of reciprocation and shows the public library responding to their users' basic information needs, thus serving their communities and the people who are the community.

Ferreira (1989b) published in the *Revista Brasileira de Biblioteconomia e Documentacao* (Brazilian Review of Librarianship and Documentation, Sao Paulo) a bibliography on reference and referral services based on her original research for obtaining her Master's of Science degree. Concepts for reference and referral services precede bibliographical references, and she states her aim of drawing the attention of Brazilian professionals to this yet to be explored field of Brazilian LIS studies.

It is important to point out the absolute absence of videotex/teletext initiatives in Brazil, as these media have been extensively used for mass public information services in developed countries such as the UK (Prestel, Oracle, CEEFAX, etc) and France (Minitel). Robredo (1989), a lucid scholar of informatics, library automation and telecommunications in Brazil, states clearly that '*Brazil let the initial thrust for videotext/viewdata die, and therefore*

condemned herself to a delay in development whose magnitude and consequences start to become very clear.' He does not give reasons why no interest was put into the development of viewdata/teletext systems in the country, but this might have been a choice decision-makers had to make and not to develop this sector when confronted with rampant inflation and political uncertainty marking the transition from dictatorship to full democracy in the late 1980s.

Finally, the only community information project in Brazilian public libraries that can be fully characterised as such is the Information Service for Citizenship (ISC) of Public Library Mario de Andrade, Sao Paulo. It was created at the end of 1990, having evolved from the Information Balcony, previously the general enquiry service of that library. ISC is introduced in detail in Chapter 8, because the Service kindly agreed to test the present prototype in their premises. For now, it is important to say that Mario de Andrade Public Library has been setting standards for LIS in Brazil since its foundation in 1930s. The fact that it is committed to community information supply is an indication that such service is likely to be slowly but surely introduced in Brazil.

3.4.2 THE CONTEXT AFFECTING COMMUNITY INFORMATION SUPPLY BY BRAZILIAN PUBLIC LIBRARIES

Two fundamental questions come to mind when one analyses this scarcity of current theoretical and practical projects on community information in Brazilian public libraries, and these are:

1. What were the factors that prevented or halted Brazilian public librarianship from reaching out to their communities by providing information on rights and everyday concerns for the full exercise of citizenship?
2. What recent factors are stimulating community information services, and the role of public libraries in this process?

To attempt answering these closely related questions is not easy. Indeed, what is required is to look beyond the available fragmented pieces of information and search for clues in the development of Brazilian public librarianship, historical, economical and political context that led to the neglect of community-oriented activities in the country's public libraries. Only then the missing pieces of a complex picture can be put together and one may attempt to show why this context must evolve to include community information services in it.

In what follows, historical, economical and political issues are raised in order to attempt to

explain this neglect and demonstrate a case for community information services in Brazilian public libraries.

*** The Historical Perspective**

The history of Brazilian public librarianship is yet to be written. Nevertheless, it is possible to establish certain historical links relevant to the present study, demonstrating that the function of public libraries in Brazil as a community information supplier is yet to be fulfilled.

The first public library in Brazil was created in Salvador (Bahia State) in 1811. It opened with 3,000 volumes obtained from public donations (Moraes, R. 1979), and published a printed catalogue of 15,000 items seven years later (McCarty, C. 1982). Many of these volumes were in French, the language of learned Brazilians, thus not accessible to the majority Portuguese-speaking community.

After independence from Portugal (1822), many municipalities opened public libraries in imposing centrally located buildings geared by the desire to develop a national identity and culture. These early public libraries, however, reflected a well-meaning but elitist view of society. It could be said that luxury was essential for good reading. Conference and meeting rooms were usually larger, more comfortable and better decorated than reading rooms. Indeed, the missing element was the common people and the less privileged. Children's libraries, for example, did not exist until much later.

Brazilian modern public librarianship started in the 1930s, when North American lecturers came to teach Library Science at the University of Sao Paulo (USP). Until then, public libraries had been managed by appointed learned members of society, with no training in library and information studies (LIS). With the arrival of the North American lecturers, emphasis was put on the setup of children's libraries and bookmobile services. Public libraries were acknowledged as part of cultural services of local authorities and municipalities, and a library service more attuned to Brazilian reality started to emerge. Many of these ideas were promptly put into practice by Public Library Mario de Andrade, Sao Paulo, still today one of the leading Latin American public libraries. Also, formal training in librarianship started to be offered by federal universities in major Brazilian cities.

The second landmark in Brazilian public librarianship was the creation of the Instituto Nacional do Livro - INL (National Book Institute) in 1937 (Encyclopaedia of Library and Information Science, p180). a sponsored programmes for library development, staff training and national events, such as the National Book Week, and a long established book distribution programme to libraries registered with it, i.e. almost all Brazilian public libraries.

INL set up in 1977 the National Public Library System (NPLS). NPLS links all public libraries in Brazil, emphasising library co-operation and regional networks, standardisation of procedures and planning both at regional and national levels. It was conceived within UNESCO's framework for the setup of a National Information System (NATIS) in Brazil (Brasil, Instituto Nacional do Livro, Program Nacional de Bibliotecas, 1978).

Basically, the National Public Library System has a three-tiered structure, represented as follows:

1. LIS Authorities (at federal level, including the Minister for Cultural Affairs, Education, etc. and representatives of LIS institutions, such as the National Library, IBICT, etc.) and Heads of Major Brazilian public libraries, forming a National Council to deliberate on public library issues, planning and policies;
2. Regional/State Major Libraries, whose heads/representatives participate in the National Council, responsible for branch/minor libraries under their jurisdiction and co-ordination. Regional/State major libraries are in general located in the state capitals of the federation and many are among the first public libraries founded in Brazil;
3. Branch/minor libraries - as the name indicates, these are minor libraries located either in state capitals or in towns and villages in the country. Their importance should not, nevertheless, be underestimated, because in a continental country of the size of Brazil the effective branch or minor library working under the co-ordination of its regional major library may constitute an invaluable outlet and outpost for all sorts of public information services.

Sadly, INL was shut down in 1990 due to cuts in public spending. Nevertheless, the National Public Library System survived and is operational, demonstrating that the infrastructural work started by the INL is still bearing fruits. Therefore, there is in Brazil a national framework for public library organisation and services, but the closure of the organisation that created this infrastructure is a clear indication that public libraries have not been a priority for Brazilian authorities and LIS decision-makers for some time.

The simple and direct explanation for abandoning public library issues in Brazil as a priority lies in the outmoded concept of libraries as document warehouses detached from their users still prevailing in Brazilian LIS and in the economical perspective and political context which are introduced in detail next.

Chapter 3 - CI and LS in Developing Countries and Brazil

As stated by Shaughnessy (1991), the concept of libraries as warehouses of documents and information, if ever was entirely valid, is certainly losing validity today due to growing and differentiated information needs, uses of information technology and economical pressures on what should be an unquestionable priority, i.e. the creation and maintenance of public information systems by local authorities in the public library to serve communities. This is very much apparent in the developed world, but not so in many developing countries as the case of Brazil demonstrates. Due to the lack of information resources of all sorts prevailing in developing countries, the build-up of resources is still of paramount importance, yet it should be based on growing understanding of users' and communities' needs. This fact is yet to be fully realised by Brazilian LIS planners.

Likewise, public libraries lost much ground to technical and special libraries due to the ideology of information for development, which channelled the scarce resources available to scientific and technical information supply only. Thus, special libraries in general terms in Brazil followed the main stream of LIS worldwide, such as in the case of automation. The authoritarian rule Brazil suffered for more than two decades is also examined in the political context, for community information deals with democratic rights, and these were severely limited in the country.

Before these issues are approached in some length, since late 1980s there seems to be a revival of interest in public libraries as part of cultural centres, i.e. large building complexes with striking architectural design housing museums, cinema, art workshops, galleries and library, probably influenced by the concept of the Centre Georges Pompidou in Paris or the Barbican Centre in London (McCarty, C. 1983), and due to the concept of public libraries as *popular libraries* and *cultural-action libraries*, which appeared at the same time. Also, this date marks the beginning of Brazil's slow return to full democracy.

Flusser (1980), the main advocate of popular and cultural-action libraries, affirms

that:

'True public libraries are libraries with a cultural action function that reach out for non users, and whose scope is not restricted to literary culture. Their vocation is to be the cultural centres for their communities and a tool for liberation' (p137).

This statement shows clearly that public libraries in Brazil have yet to fulfil their mission in their communities, not to restrict themselves to literary activities, encourage action to involve non users and respond to their community, leaving behind the outdated idea of libraries as literary warehouses for the unenlightened.

It could also be argued that the term 'popular library' does not reflect the full extent of the

character of public libraries. The adjective 'popular' is defined in the Oxford English Dictionary (1989) as 'of, pertaining or consisting of the common people or the people as a whole'; the adjective 'public', on the other hand, contains all these qualifying elements, plus 'pertaining to the people of a country or locality, national'. It is in this sense that public libraries are more than popular institutions: they belong to the people whence they find their origin and sustenance.

No studies were recorded on the impact of placing public libraries in cultural centres in Brazil. It is important, nevertheless, to mention that the term 'community' was mentioned in Flusser's statement, and that he urged public libraries to respond to non users' needs.

In short, the historical development shows that despite their early start, public libraries in Brazil have yet to fulfil their role as an information provider for their communities. Nevertheless, there is evidence that there is a movement towards increased involvement of the public library with its community in Brazil.

*** The economical perspective**

From discovery (1500) to 1930s Brazilian economy was based on agriculture.

Industrialisation started only in earnest in the 1950s, heavily based on technology transfer, in the hope to proceed in a faster pace towards development. Foreign investments were heavily encouraged and major multinational industries found in Brazil a base for their products, taking advantage of local raw materials and cheap labour. Brazil therefore started depending on a heavy influx of foreign technology to maintain economical growth (McCleary, 1983), but not necessarily ensure development for all levels of society. This model proved to be disastrous to public libraries in Brazil as well.

Fundamentally, the industrialisation and development model based on technology transfer did not foster indigenous research, relied heavily on the input of fossil fuels not found locally and transformed the country into an assembly line for multinational corporations. When the two petrol shocks caught Brazil unprepared to change the focus of its economy and interest rates of loans Brazil had made with foreign banks and investors soared, the cycle of high inflation and that has plagued the country started. With it, a vicious cycle of dependence, stagnation and failed attempts to deal with internal and international debts came along.

How did these facts affect directly public libraries? Basically, from the 1950s and especially from the 1970s onwards, only scientific and technical information (STI) received massive support. The prevailing ideology was to develop special libraries and information centres for

priority sectors, i.e. fuels, energy and state-owned research institutions.

Paez-Urdanetta (1989) stated the dilemma confronted by Third World planners that explains very well the Brazilian circumstances, and thus is worth quoting in full:

'In some cases, pressed by the need to meet the public's demand for basic information, many governments polarised unequal efforts towards the creation of public library systems; in other cases, efforts were polarised towards the creation of mechanisms for the transfer of scientific and technical information, in the form of institutions established for the advance of national research in science and technology. These polarisations, together with the lack of similar efforts and developing information services at other levels, particularly the industrial, resulted in the political perception of the information sector as a social service (i.e. of social compensation) or one of academic nature, and not as one for strategic socio-economic change ' (p177).

Evidence by Cavan McCarty (1982 and 1983), who studied the automation of Brazilian public libraries in depth, shows that out of the 31 institutions he visited, there was only one public library, Sao Bernardo do Campo and its TAUBIP (Total Automation of Public Library). By 1991, TAUBIP was still operational, with an online catalogue and a circulation module available, as presented in Chapter 5 of this thesis.

Automated centres quoted by McCarty (1982) were the following: 8 universities; 6 institutions working in the energy field (petrol and nuclear energy); 4 institutions in the LIS field, ex. the National Library, IBICT (Brazilian Institute for Scientific and Technical Information), and 4 research and development institutions. These were the centres that experimented with information technology in Brazil, because they had support and funds whereby this could be done. As public libraries were neglected, they could not engage themselves in the same process.

Despite its good intentions, the ideology of information for development never bore the results or solutions it had been designed to fulfil. In the specific case of Brazil, much of the failure can be attributed to the adoption of an economical model heavily based on technology transfer and not on knowledge acquisition. A model based on technology transfer relies on the simple transference of resources and basic research from abroad, use of the indigenous and cheaper workforce and sees information as a secondary or supporting tool. A model based on knowledge acquisition establishes a basis for an indigenous capability, therefore relying on the organisation and access of targeted information resources to foster development in priority areas.

To illustrate the case of the technology transfer model in Brazil, the automobile industry can serve as an example. Multinational automobile manufacturers such as Volkswagen, Ford and Chevrolet were attracted to the country in late 1950s, and they set up their industries in

Brazil. Nevertheless, no basic research is carried out in Brazil, and Brazilian subsidiaries of these multinationals only assemble parts produced locally taking advantage of a cheaper and less skilled workforce. Engines and special parts have to be acquired from the headquarters from abroad.

Realising the failure of such approach, the Brazilian government adopted a different position to foster a national computer and telecommunications industry in the 1970s. This involved the outline of a National Policy for Informatics, co-operation with learned institutions and incentives for small and larger national industries (Dantas, 1988; Figueiredo, 1987; Tigre, 1983). This model was based on establishing an indigenous foundation to develop a priority area. Therefore, it is based on the encouragement of indigenous skills, i.e. knowledge acquisition. One can say that Brazil assembles cars only, but makes its own computers.

Most regrettable within this context is the lack of recognition of the vital role public libraries should perform in a developing country like Brazil to engage users in the productive process demanded to develop the nation. This neglect has been dearly paid by the Brazilian community as a whole.

*** The political context**

In 1964 a military take over took place in Brazil, and the country lived under dictatorship, just returning to full democracy in 1989.

In authoritarian rule, library and information services are likely to be under police state, and the strict censorship Brazil experienced must have affected public libraries in their freedom to act. Clearly, at the time public libraries in the West were expanding traditional services to include community outreach projects, such as information on fundamental rights and local studies, many making use of IT tools, Brazil was living under centralised control and strict censorship.

Repression did involve the persecution of politicians and intellectuals, massive exodus or voluntary exile of culture-makers not attuned to dictatorship, mass media control. This must have had a neutralising effect on Brazilian public libraries. It is therefore not surprising that they had to resort to traditional document-oriented services only. Even if they could have had access to developments taking place in the West, they probably would not be able to put these developments into practice.

Only much later, in the beginning of the 1980s, as the country slowly started discussing the return to democracy, the concept of public library in the community as a popular and

cultural-action library appeared in Brazilian library and information studies.

Brazil's return to democracy is offering public libraries the chance to realign themselves with worldwide developments in the field. Several structural changes have taken place in the country since 1988, when a new Constitution was drafted, and complementary laws have also been created. Many regard rights of individuals and groups, so very much within the context of community information as defined for this thesis.

This means that public library services should evolve and also provide access to information on basic rights and everyday concerns for living in society and the exercise of citizenship.

3.5 LOCAL STUDIES IN BRAZIL

No reference was found in the literature concerning local studies projects in Brazil.

Nevertheless, the earliest reference to the outline of some principles which might have some bearing for local studies is found in Miranda (1978), a leading Brazilian library and information studies scholar and planner, when he suggested some principles to make clearer the mission of public libraries in Brazil, such as:

1. Promotion of the national language;
2. *Provision of government publications to inform citizens about programmes that affect them directly, including the National Development Plan;*
3. Provision of books and other materials to students in general and for self-education;
4. Collaboration with the literacy campaigns and the provision of adequate material for new readers;
5. *Collection of materials concerning to local history and culture, and*
6. Provision of technical and commercial information to firms and people demanding it, including leisure and tourism information in this area.

Clearly, items 2 and 5 in italics deal explicitly with community information and local studies. This article implies that there was no clear definition of intent and purpose for public libraries to that date. Also, so far no evidence was recorded of a national initiative to make government publications available to inform citizens in Brazil about programmes that affect

them directly. Considering the major political, economical and social changes the country has undergone in the last decade, this is a serious handicap.

Another observer and scholar of Brazilian LIS issues, Cavan McCarty (1982), commenting on the situation of printed matter in Brazil, made the following statement relevant to this review:

" Whole areas, such as local history, cookery or hobbies, which are strongly represented in British or American bookshop, are weak in Brazil" (p13),

and

"Reference works are few and far between, and even the simplest guides, taken for granted the UK or the USA, may be lacking" (p13).

Nevertheless, a closer look to current practice shows that there is indirect evidence of local studies-related activities in Brazilian public libraries.

3.5.1 ANALYSIS OF CURRENT PRACTICE

Caution should naturally be exercised when analysing the lack of local studies projects in Brazil. As for community information, it is necessary to look beyond the fragments of missing data on local studies and then proceed to attempt the outline of a fuller picture based on the available data.

Major Brazilian public libraries do have the following:

1. A State Section/Room, which would correspond to a general reference library containing the state/local collection in a myriad of formats, i.e. printed matter, audio visuals, rare books, etc. , as in the case of the researcher's hometown of Porto Alegre;
2. Some produce local studies material in the form of bibliographies of local authors and annual calendar for programming events, (Mario de Andrade Public Library, 1992);
3. Some organise and/or support local cultural activities in the public library or in co-operation with other institutions, such as museums, universities, etc. , as stated in the daily press of quality papers of major Brazilian towns, e.g. "Zero Hora" in Porto Alegre.

Thus, from this evidence it is possible to assume that:

- a. The concept of local studies supply as known in the developed world as a community-based information service designed to serve communities in all their aspects and types of endeavour within the past, present and future of that environment is still undeveloped in

Brazil;

b. Where local studies-related services or products are offered, these are mostly of traditional reference framework, where a special space and collection is maintained about the local region/community, and/or to support or highlight a cultural-related event or activity, such as in the cases of in-house production of bibliographies, calendars and organisation of cultural events.

The reasons why local studies activities have concentrated on the traditional special reference framework are very much the same introduced in detail for the lack of community information supply: historical elitism, emphasis on scientific and technological information and the authoritarian rule the country was under for more than two decades.

Thus, from Cavan McCarty's statement that whole areas such as local history seem to be weak in Brazil and the scarcity of reference works in general it is also possible to assume the low level of local studies activities not only in public libraries, but also as a source of inspiration for artists and culture makers. This condition prevails very much in developing countries, and constitutes one of the main reasons why the setup of any national information system capability should start with the systematic organisation of local sources of information, as constantly advised by agencies such as UNESCO and IFLA, but little realised in practice outside their worldwide programs. It should be remembered that LIS are endemically weak in developing countries as well and that developments in LIS reach Third World nations decades later, in a vicious cycle of dependence which is difficult to break.

Local studies, nevertheless, should be seen as a priority in developing countries, because its raw material is the locally generated data, the identification of specific information needs, as well as the systematic organisation and access of information sources/resources data likely not to be available outside the immediate community. As access to information technology becomes more affordable to these countries too, it should be used to foster the organisation, maintenance and availability of local resources and information sources to serve communities in their special needs. This important aspect of local studies supply has been largely missing in Brazilian public librarianship so far, as this review attempted to demonstrate.

3.6 COMMUNITY-RELATED INFORMATION: THE CASE FOR BRAZILIAN PUBLIC LIBRARIES

This review of community information and local studies initiatives in Brazilian public libraries demonstrated that these important domains of modern public librarianship are still to be

developed in that country. Likewise, in view of the economical, political and social changes the country is undergoing with the return to full democratic order, this review also attempted to demonstrate that there is a strong case for Brazilian public libraries to provide problem-oriented, self-contained and directly applicable data 1) to help raise the awareness of Brazilian people of their rights and 2) to organise, retrieve and make available data not likely to be found outside immediate communities. Indeed, in a developing country like Brazil the local library may be very well the institution with the profile, skills, credibility and resources to provide community-oriented information services nationwide with less public spending and by building upon the existing infrastructure. This fact is yet to be fully realised by library and information studies policy-makers in Brazil.

Having established the need for community information and local studies in Brazil, the key issue that needs to be addressed by this doctoral project constitutes the definition of a joint approach for community information and local studies supply for the scope of this project. This joint approach will be translated in the system design proposed so that a contribution can be made for public librarianship studies in Brazil and perhaps for other developing countries where the same circumstances apply.

Bearing in mind that both community information and local studies in public libraries constitute a public information service closely linked to the communities served by the library, for the scope of the present project the concept of *COMMUNITY-RELATED INFORMATION (CRI)* is introduced. *COMMUNITY-RELATED INFORMATION* is therefore defined as:

1. Fundamental information that is needed to solve everyday needs and concerns, to foster the exercise of citizenship and rights pertaining to individuals and groups, as well as
2. Information/data to bring to light historical, cultural, cultural, socio-economical data relevant to the community and perhaps not available elsewhere.

The concept of community-related information is thus introduced in this thesis to highlight fundamental aspects of community information and local studies supply in modern public librarianship in the developed world that have yet to be fully dealt with by Brazilian public libraries. This concept will be then applied to demonstrate a theoretical and practical framework for the systematic organisation, access and retrieval of community-related data for Brazilian public libraries.

In other words, the term community-related information refers both to a community

information and a local studies application throughout this thesis. This term is also envisaged within the context of a community-oriented information service developed preferably in-house by public libraries, encouraging the full use of existing resources and the systematic organisation, access and retrieval of locally generated data.

Finally, the provision of community-related information services as proposed in this project is intended to complement the range of public library services now provided in Brazil and to raise issues to foster a closer relationship between Brazilian public libraries and their communities. Community-oriented work has been the missing element in Brazilian public librarianship until now. The time has come for Brazilian public libraries to try and become more visible to their communities, and as such realise their own vocation. For it is in the community that public libraries have their origin and sustenance.

PART II - DESIGN PROCESS AND ALIS PROTOTYPE

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

Methodologies constitute the body of reasonings and techniques science has used to tackle problems and therefore can be defined as the sets of procedures and methods by which identified problems will be studied (Busha and Harter, 1980).

This chapter describes therefore the methodologies used for the design and evaluation of an experimental prototype named ALIS for the organisation, access and retrieval of community-related information for public libraries in Brazil. The following techniques were used:

1. Survey of major Brazilian public libraries through a postal questionnaire to obtain a more accurate and up-to-date profile of current procedures, with specific queries on community information, local studies and automation, as well as to gauge prevailing attitudes towards these issues;
2. Choice of a prototyping approach by making use of the database management system software CDS/ISIS for the design of ALIS, an experimental model for a community-related information system prototype for Brazilian public libraries;
3. Prototype evaluation in two Brazilian public libraries, involving the following procedures:
 - a. In-depth individual interviews to gather the professionals' perception of community information and local studies, resources and practices;
 - b. Prototype demonstration to participating librarians;
 - c. Individual hands-on sessions by participating librarians, who used the system at their

Chapter 4 - Methodology

convenience, without interference from the present researcher;

- d. Individual questionnaires to be self-administered by participating practitioners on the rationale, content and use of the prototype;
- e. Individual in-depth interview on system implementation, and finally
- f. Data collection of a sample of community-related information queries in the visited libraries to check the adequacy of the model created to satisfy real community-related information needs.

In what follows, these methodologies and techniques are presented in detail.

4.2 SURVEY OF BRAZILIAN PUBLIC LIBRARIES

Survey research is characterised by the selection of random samples from large and small populations to obtain empirical knowledge of a contemporary nature. The knowledge so obtained allows generalisations to be made about characteristics, opinions, beliefs, attitudes, etc. of the entire population being studied. Methods of survey research allow to gather information about target populations without undertaking a complete enumeration (Busha and Harter, 1980).

The need for data on current procedures, community information and local studies supply and automation in Brazilian public libraries became clear from the initial stages of this project. The scarce data found in the literature proved insufficient to draw a contemporary and more accurate profile of practices and services of Brazilian public libraries, especially regarding the organisation, access and retrieval of community-related information. Data on public library automation was equally scarce. Furthermore, there was the need to gauge prevailing attitudes of practitioners on community-related information and automation.

To obtain this data, a selective national survey was carried out under the form of a postal questionnaire sent to the Chief Librarian of major Brazilian public libraries.

To provide some insight into the problem of the lack of information on library automation and services as a whole in developing countries, McLean (1983) made this comment worth quoting in full:

'A concern has been expressed that only a few of the South American libraries responded to a questionnaire sent by LARC Association (Library Automation Research and Consulting) toward the compilation of automated library activities data in Latin America. The Brazilian entries as well as other South American entries described in this survey were based partly on secondary sources citations and their brevity of description made the understanding of type and extent at times impossible.'

It has been noted that the authors interested in the field of library automation show an unfamiliarity with the actual conditions in the less developed countries despite being

otherwise very competent and having a genuine desire to be informative. It must be combined with real understanding of local conditions, traditions, attitudes and aspirations ...' (p147).

This quotation illustrates very clearly the challenges faced by researchers trying to obtain data on LIS as a whole in developing countries.

4.2.1 CHOICE OF POPULATION

In order to draw a profile of current public library procedures, a representative sample of Brazilian public libraries had to be selected.

According to the Brazilian Institute of Geography and Statistics (IBGE - Instituto Brasileiro de Geografia e Estatística) there are roughly 4,174 public libraries in Brazil (Nascimento and Macedo, 1992).

These public libraries, however, vary in terms of organisation, size, coverage, staff and services provided, as this number include the range from traditional public libraries, which evolved with their community or region, to small collections stored in a spare room of a town hall of a village or municipality. Therefore, for the scope of the present project it was necessary to limit the number of public libraries surveyed to a more manageable number of libraries which primarily satisfied requirements of being *representative public libraries with long involvement with their communities*.

The World Guide to Libraries (Lengenfelder, 1987), and the periodical Revista de Biblioteconomia de Brasília, 7(2) 1979, provided the list of Brazilian public libraries which fulfilled the criteria of representativity and community involvement required for this thesis. The World Guide to Libraries listed thirty-four major Brazilian public libraries by date of foundation, address and location, as well as providing data on the collection. The Revista de Biblioteconomia de Brasília, on the other hand, contained the manifesto that created the National Public Library System in Brazil, as well as described the major libraries which were heads of their state/regional public library system. All these libraries were also listed in the World Guide to Libraries as important Brazilian public libraries. These thirty-four selected public libraries, their date of foundation and location are listed in the Appendix A.

The following points provided confirmation that these major Brazilian public libraries fulfilled the requirements of representativity and/or involvement with their communities as specified for this thesis:

1. 18 out of 34 libraries, or 55%, are located in state capitals (e.g. Sao Paulo, Rio de Janeiro, Salvador, Porto Alegre, Florianopolis, Curitiba, Manaus, Belem, Belo Horizonte, Maceio,

Recife, Sao Luiz etc.). Likewise, public libraries located in state capitals are also the heads of their local/regional public library system within National Public Library System in Brazil;

2. The 16 public libraries not located in state capitals are towns of historical, industrial or economical importance, e.g. Petropolis, the summer residence of the Brazilian Imperial family, industrial towns such as Santo Andre, Sao Bernardo do Campo, Joinville and Erechin (also centres of German immigration in the second half of 19th century), mining centres such as Governador Valadares, and university towns, e.g. Campinas;

3. A measure of community involvement was loosely obtained by analysing the date of foundation of public libraries according to the World Guide to Libraries, as shown in Appendix A. Sixteen public libraries in this list were founded last century, a remarkable fact for a developing country like Brazil, and the most recent date of foundation for a public library is 1977. It was therefore assumed that these libraries have been involved and/or linked to their communities for some time.

Questionnaires were addressed to the Chief Librarians, because they were assumed to be the most qualified to provide authoritative, reliable and accurate replies.

4.2.2 DESIGN OF SURVEY QUESTIONNAIRE

The postal survey questionnaire was designed with the following objectives:

1. To obtain a more up-to-date profile of current public library procedures and services to the public;
2. To gather data on community information and local studies services in libraries;
3. To identify uses and trends in automation in Brazilian public libraries, if any, and
4. To enquire on attitudes towards the main issue this project intended to address, namely automation and community-related information supply.

Thus, the questionnaire was designed to provide both an overview of present procedures and an outlook of perceived trends. To this end, it was divided into two parts, Part A and Part B, making a total of 48 questions.

Part A was aimed at finding out current features, procedures and services. Thus, questions were mostly factual to elicit direct and quick responses. To enable improved ease of completion and cover the whole range of library procedures in operation and allow for a clearer compilation of results, Part A was divided into seven subsections, under the following headings:

- a. Library identification - Questions 1 to 5;

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- b. Library collection and resources - Questions 6 to 10;**
- c. Library procedures - Questions 11 to 22, broken down into subsections covering traditional library procedures of cataloguing, classification, acquisition, circulation and printed library production;**
- d. Public library use and users - Questions 23 to 25;**
- e. Publicity - Questions 26 to 30;**
- f. Local/State Section - Questions 31 to 34, i.e. queries on local studies issues;**
- g. Local Reference Services: Questions 35 to 40 concerned with community information.**

Questions regarding community information and local studies were indirect and carefully phrased because, as discussed in Chapter 3, the concepts of community information and local studies are still not fully developed in Brazilian library and information studies. Thus, the use of a more general term that could be easily understood and identified by all, i.e. local/state section for local studies and local reference section for community information.

Part B, containing Questions 41 to 48, aimed to gather data on trends and developments of Brazilian public librarianship in some important issues the present research project intended to clarify. Thus, professionals in Part B were probed on their views of public librarianship in the country, profile of public libraries in the community and their local authorities, community information and automation.

According to behavioural research, considerations of both attitudes toward an issue and attitudes related to action will allow more accurate predictions of the future behaviour of respondents (Busha and Harter, 1980). It was assumed that the libraries surveyed and their Chief Librarians would probably be the ones responsible not only for setting up community-related information applications, but also the ones responsible to manage and monitor the impact of such initiatives in their environments. Part B therefore intended to obtain a measure of their attitudes towards key issues addressed by this project.

The structure of questions chosen both in Part A and Part B was partially close-ended questions, in an attempt to build variables, but not to restrict respondents to choose alternatives they could not fit in. Some open-ended questions were also used in the following cases: i) in situations where a very precise piece of information from respondents was needed; ii) to clarify a position, and iii) to elicit/solicit suggestions.

Questionnaires sent to Brazil were in Portuguese. English and Portuguese versions of the questionnaire are enclosed in the Appendices B and C.

The questionnaires were sent on March 18th 1991. The first follow-up letter was sent on April 30th 1991, and the last follow-up mail sent on May 28th 1991. Out of 34 questionnaires sent, twenty-four returns were obtained, i.e. 70%. Results of the selective survey of Brazilian public libraries are presented in Chapter 5 of this thesis. Follow-up letters are enclosed in Appendices D (English version) and E (Portuguese version).

4.3 PROTOTYPING AND ALIS DESIGN

4.3.1 INTRODUCTION TO PROTOTYPING

Prototyping can be defined as:

1. The process of creating a working version of a final product that is subsequently refined and made more efficient. It is therefore fundamentally an interactive, non-deterministic and user-driven method of system design and testing (Licker, 1987), and as a
2. A preliminary version or a version of all or part of a system before full commitment is made to develop it (Smith, 1991).

These two definitions do not exactly reflect the approach adopted for the present research, because prototyping in this project is chiefly used as a modelling tool to enable analysis by approximation, whereby a problem is analysed, a system solution is explored and users' acceptance tested and/or investigated (Marshall, 1985). Hence, the aim was not to produce a product as implied in the above definitions.

The present prototype is not conceived as a working version of a final product, but as an *experimental model* to demonstrate an application for the systematic organisation, access and retrieval of community-related information for Brazilian public libraries. Boar (1984), on the other hand, defines application prototyping as '*a strategy for performing requirements determination wherein user needs are extracted, presented and developed by building a working model of the ultimate system' quickly and in context'* (7p).

The present model is an applied prototype according to the above definition, firstly because applied prototyping is used as a strategy to determine and raise issues relevant to community-related information supply by Brazilian public libraries based on the perception of identified needs. Secondly, these identified needs are extracted, presented and developed by building a working model for a community-related information retrieval system for public libraries in Brazil. This working model, nevertheless, is not a final version of an ultimate system, but a conceptual and practical framework to encourage the debate on the issues raised by the prototype in order to investigate the model's feasibility based on insights of information professionals. In this context, application prototyping is used as a *research tool*,

an analytical device and a philosophy to test a conceptual framework for further debate and development towards implementation.

The prototype being related to the Brazilian context and the present research being carried out in the United Kingdom did not allow for much interaction between users and the researcher in the role of a systems designer. On the other hand, the experimental character of the model did not press professionals in Brazil for commitments they would not be able to take on, although it encouraged debate and not the imposition of a theoretical and practical framework. The present applied prototype is therefore a trial model, showing an exploratory use of a specific computer software which is used to represent part of a future system. As a system design technique, prototyping can and should be used to improve the interface between the computer application and users, as it is also the intention of this research project.

A general prototyping framework follows the schematic sequence depicted below in Figure 4.1 (Smith, 1991):

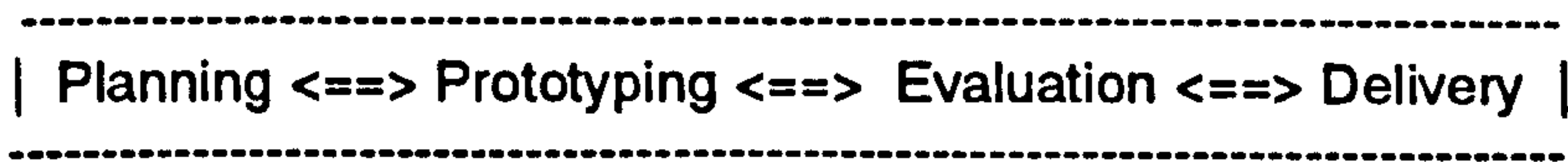


Figure 4.1- Schematic prototyping framework

By breaking down the above schematic framework and its components, it is possible to identify the following prototyping stages as applied in this project:

- a. *Planning for the system design*: involved basically three specific stages. The first one consisted to the postal survey, aimed at obtaining the profile of Brazilian public libraries and services provided to the public. The second stage covered the identification of information requirements and features needed for the system, and the third stage involved information gathering for each database in the prototype;
- b. *Prototyping*: involved the development of a working version of the model proposed, i.e. the core of the present research;
- d. *Evaluation*: submission of the proposed prototype to information professionals in Brazil, who were queried about the system's conceptual framework, use and further implementation issues.

The present research project did not include Stage 4, Delivery, because the model proposed

was not conceived as a final product for immediate commercial application, but as an exploratory tool to test and demonstrate some ideas and concepts for community-related information supply not fully dealt with by Brazilian public libraries.

4.3.2 ADVANTAGES OF PROTOTYPING

According to Smith (1991) and the National Bureau of Standards (1984), major benefits of prototyping are the following:

1.. Prototypes are a simple, direct and practical means of communication between designer and potential users for innovative applications: a small scale model that demonstrates an application not yet thought of allows for fewer misunderstandings and easier corrections when need be. By seeing the model and giving the opportunity for potential users to use it, users who might be unable to articulate or understand the system or their tasks are encouraged to speak out. Likewise, designers may find it easier and more effective to communicate with users through the prototype in order to explain in practice the facets of the system proposed, clarify advantages and limitations which would be difficult to convey in written form or otherwise;

2. Prototyping gives a better appreciation of the problems and benefits of the software before installation;

3. As an exploratory device, prototyping enables modelling of ideas, and as users are exposed to the system, expectations can be 'down scaled' and fears of the application reduced, a crucial issue in this project;

.

4. As a prototype is not a final model, it enables testing and rectifications so that errors which may be proven to correct with traditional approaches are therefore much minimised. In the present case, testing and rectification with potential users in Brazil was assigned to the final stages (evaluation);

5. Prototyping overcomes the designer's inability to understand complex systems, except as small components. It permits a richer trial-and-error approach at developing complex systems, thus permitting developers to learn about applications and experiment with them. The design of a community-related information retrieval system constitute a complex system modelling task. Thus, prototyping in this context focuses on modelling a community-related information retrieval system application as an exploratory approach both at conceptual and practical levels. The designer is both experimenting and testing the ideas within a sound methodological framework and seeking discussion of the issues raised by the model

proposed;

6. Prototyping is an excellent technique to show a system by example. This is a crucial feature in the present project, where prototyping is envisaged as a demonstration device, an analytical tool and a philosophy for a much needed service not fully developed in Brazilian public libraries.

More importantly, prototyping is a particularly desirable application development approach in the following cases:

- a. The functions of an application are not completely understood or contain a strong experimental content. These are key issues in the present project. The reference/referral framework implicit in the system design constitute a new approach to community-related information supply not yet attempted by public libraries in Brazil. Therefore, prototype is an appropriate methodology to demonstrate its design feasibility and desirability (or not);
- b. The mechanisms for providing a function and their exact behaviour within an application are not completely understood and need demonstration to show how they interrelate;
- c. There is a need to design a more defined user interface suitable for the context it is to serve;
- d. The time and cost to develop a commercial software for the application is likely to be longer and higher, and even impossible to be met by public libraries of a developing country like Brazil. There are software design houses in the country, but the price of their services even within subsidised market price ranges may be high for most public libraries to afford.

4.3.3 DISADVANTAGES OF PROTOTYPING

Major disadvantages of prototyping are the following, according to the National Bureau of Standards (1984) and Smith (1991):

1. The development of an experimental model can result in many trial systems. The nature of the present project indeed may lead to other trial systems, although current conditions did not allow for extensive and time-consuming trial phases;
2. Prototypes may be unsuitable for translation into larger systems. Designs produced by prototyping may be too narrowly focused or the tools employed unsuitable for scaling the prototype into a full-sized working system. The best antidotes for this problem are knowledge

of principle of design, good testing techniques and suitable software tools (Smith, 1991);

3. Reduced number of users involved: it is neither feasible or practical and economical to involve all possible users when prototyping. Therefore, not all expected or desirable features can be always included in the prototype and this can be an important drawback;

4. Confusion of prototype with the real system: the prototype is a model, not the final version of a full system. Users may be inclined to take one for the other and not be very happy to find out that the end version is still a way ahead.

5. Functional requirements: the choice of an existing software demands that one should conform with the constraints the software may impose in terms of hardware and training of personnel to run it. A strict set-by-step follow-up of the instructions recommended for the software is also mandatory, and this means the allocation of resources and time for learning and training purposes;

6. Development of the chosen software in comparison with more recent packages available in the market may be a disadvantage to be taken into consideration.

Careful planning, appropriate management, system design techniques and contact with designer and users when need be can reduce to reasonable proportions these reservations.

Taking therefore into account the goals established for the present research, prototyping appears to be an appropriate design methodology to simulate an automated information processing environment which could respond in a small scale to the demands for community-related information in Brazilian public libraries.

Finally, prototyping is a particularly suitable methodology in this context, because any initiative involving community-related information supply and automation for a developing country like Brazil should attempt to be realistic and involve potential users at some stage. Likewise, the keys to the set-up and proper management of community-related information systems are involvement and interaction.

4.3.4 METHODS FOR PROTOTYPE DEVELOPMENT

Prototype development can be done by using 1) conventional programming languages and methods, 2) by selecting a program or segments of a program and implementing on it and 3) by rapid prototyping tools focusing in general on the interface.

For this research, the most appropriate method for prototype development was considered to

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be the selection of an existing database management system software known in Brazil upon which a fully functional scaled-down model for a community-related information retrieval system could be developed.

In view of the specificity inherent to the design of a model for a community-related information retrieval system prototype, the software package chosen for this project should be able to cater for library procedures and be able to include the features this research intended to introduce. The logical choice was a database management system software of repute already available in Brazil and recognised by a leading Brazilian LIS institution. This database management system software is UNESCO's CDS/ISIS.

4.3.5 CDS/ISIS SUITABILITY FOR PROTOTYPING

UNESCO's Micro CDS/ISIS - Computerised Documentation System/Integrated Set of Information Systems, or Micro-Isis, as it is widely known, is a database management software intended to store, retrieve, display and print out information, especially designed for library and information-related operations and written in Pascal programming language. The latest version of the software, 3.0, was launched in 1992, and is the one used in this project. The software is made available via signature of a contract with UNESCO's agents worldwide.

The criteria which led to the choice of Micro-Isis to model ALIS upon were the following:

1. *Recognition* by the Brazilian Institute of Scientific and Technical Information (IBICT), a leading LIS institution and UNESCO's main agent in Brazil for the distribution and implementation of the software;
2. *Availability*: upon signature of the contract and use agreement, the software is readily in the possession of the user. In a developing country like Brazil, availability of a software, and especially a library package in Portuguese language is a fundamental advantage;
3. *Documentation*: Up-to-date documentation is provided by IBICT to all Brazilian users as soon as it is released by UNESCO's Micro-Isis development team. Standard documentation, such as users' and system manual, is supplemented by IBICT's publication of Micro-Isis bulletin, called Informe Micro-Isis, so that users are made aware of fellow users, dates of trainings, update and a forum for information exchange and comments;
4. *Cost*: Micro-Isis is distributed free of charge to non-profit organisations upon the signature of a contract. A nominal fee is charged for the software discs and the cost average fifty-pounds sterling only (figures for May 1992). Cost is a crucial issue for public libraries in a

developing country like Brazil. Until recently, the cost of automation was prohibitive for all but the largest special libraries in the country, as reported in Chapter 2. Even today, the installation of a mainframe microcomputer requires substantial expenditure to which the additional cost for annual licence fee of powerful information storage and retrieval packages similar to Micro-Isis should be added. Annual licence fees for STAIRS or DOBIS, for example, amount between US\$ 14,000-15,000 (Jasco, 1987), a cost certainly too high for Brazilian public libraries. Thus, cost was a fundamental issue for choosing Micro-Isis for this project;

5. *Existing user base:* Micro-Isis in Brazil has been used by many institutions and universities under the sponsorship of IBICT. The first issue of Micro-Isis Bulletin published by IBICT in June 1989 reported the existence of 200 users nationwide (Informe Micro-Isis, 1989). The existence of an user base can be of great advantage in a large country with strong regional imbalances and low level of library automation. The knowledge of local Micro-Isis users may be of invaluable help for public libraries considering the possibility of using Micro-Isis, because they could visit these institutions to find out more about the software, learn and share experiences with other practitioners;

6. *Reliability:* The software has UNESCO's seal of quality and commitment of a dedicated research team to ensure the software's development within a worldwide distribution and implementation framework.

7. Micro-Isis can be used on a stand-alone basis, but its latest 3.0 version allows for LAN (local area network) support, i.e. it allows for simultaneous access to a given database by two or more users for both searching and data entry. Therefore, the choice of Micro-Isis seems to be adequate to suggest a new application on a stand-alone basis, and to plant the seeds for a more integrated approach to public library services in Brazil by making use of the software's LAN capability. Regrettably, there is no evidence that integrated public library services will be likely to be adopted in a near future in Brazil.

8. Although Micro-Isis has been chiefly used as an information retrieval package for library applications worldwide, the software allows flexibility for the designer to include further databases necessary to characterise a fully integrated library automation system, i.e. inclusion of databases to store data on circulation, users' identification, editing and printing facilities for reminders, etc.

Finally, Micro-Isis has been continuously updated by UNESCO within the framework of its General Information Program. This ensures a measure of continuity, a major point to be taken into consideration in any initiative to encourage not only the planning of community-

related information services but also of other types of information systems in public libraries of a developing country like Brazil.

4.4 PROTOTYPE EVALUATION

Evaluation is inherent to the prototyping approach, because it brings together the system's operational capabilities, the designer and potential real users who may accept the prototype as presented, suggest further development before implementation or even reject the system proposed.

The prototype evaluation was carried out in Brazil and involved professional librarians. It aimed also to provide the opportunity to update and confirm the information on current practices for community information and local studies supply gathered in the literature, as well as to submit the prototype to appraisal and check the system's suitability to cope with real users' queries.

Taking these aims into consideration, the objectives of the prototype evaluation in Brazil were as follows:

1. To find out whether professionals in Brazil were aware of the concepts of community information and local studies (or not), and investigate whether they felt there was a need for such services in their environment. These questions were especially designed to fill up gaps found in the literature, and gather data whether there was already a foundation for community information and local studies supply in Brazilian public libraries;
2. To gather the practitioners' understanding of the prototype's conceptual framework;
3. To assess the practitioners' understanding of the application, e.g. their views on the prototype's performance and implementation issues;
4. To collect real users' community-related information queries to check the prototype system suitability (or not) to cope with real community-related information needs in Brazil.

To achieve these objectives, evaluation followed procedures involving a combination of data collection methods consisting of a) *individual interviews* and *questionnaires* for public librarians who agreed to participate in the evaluation exercise, and b) the collection of a *sample of real users' queries* submitted to the enquiry services of the participating libraries in order to check the prototype's suitability (or not) to reply to real community-related information needs in a Brazilian public library environment.

Prototype evaluation in Brazil was carried out from December 1st-11th 1992 in Library A and from December 14th-24th 1992 in Library B.

4.4.1 CHOICE OF POPULATION

According to the selective survey of Brazilian public libraries carried out for the present project, eight libraries had computers in their premises. These eight libraries were contacted by post and kindly requested whether they could participate in the evaluation of ALIS for the completion of this thesis. The enquiry letter for evaluation of the prototype in Brazil is enclosed in its English and Portuguese version in Appendices F and G, respectively. .

Two libraries agreed to co-operate, making available equipment to test ALIS, personnel, access to existing resources and users: Mario de Andrade Public Library (Sao Paulo) and Public Library of Rio Grande do Sul, henceforth Library A and Library B respectively. Evaluation took place in the Information Service for Citizenship of Library A, and in the Reference Service for Library B.

A total of six qualified librarians participated in the prototype evaluation. In Library A, four qualified librarians with a minimum of five years' experience in reference/community-related information work kindly agreed to evaluate the prototype out of a total of seven professionals employed in the service. In Library B two qualified librarians with a minimum of four years' experience in reference work evaluated this model. Reference staff in Library B had six full time professionals.

4.4.2 PRELIMINARY IN-DEPTH INTERVIEWS

Before demonstration of the prototype, in-depth interviews were carried out with the six professionals who agreed to evaluate the prototype in order to gather their perceptions of community information and local studies, resources and practices. Interviews lasted an average of one hour and a half/two hours each, and were recorded in a standard cassette recorder. Appendices H and I contain the English and Portuguese versions, respectively, of the six open-ended questions designed for the preliminary interview schedule, covering the following topics:

1. The professionals' idea of community information and local studies;
2. Need for community information and local studies in their environments;
3. Availability, processing and use of resources, if any, and
4. Existence of co-operation links with the community.

This preliminary section was aimed at filling gaps found in the literature on current practices and resources for community-related information supply in public libraries in Brazil.

4.4.3 PROTOTYPE DEMONSTRATION

In both Libraries A and B, one computer terminal was made available to test the prototype, which was then copied into the hard disc of the computers available. A session was arranged to demonstrate the prototype to librarians who agreed to participate in the evaluation and other interested staff.

Demonstration in each library lasted an average of two hours. After a short introductory talk on the prototype, its most important aspects and services were explained and demonstrated interactively, with practitioners alternating positions in front of the terminal. Special attention was given to searching, data entry, database definition and master file maintenance services. Participants were also encouraged to alter, delete and add new records to the existing databases in the prototype. Data base definition services were illustrated by the joint definition of a short directory of local organisations.

4.4.4 HANDS-ON SESSIONS

The system was with the participating librarians to enable them to use the system at their convenience without interference from the researcher. The aim of these hands-on sessions was to allow to experiment with the system before making their assessment on the prototype performance and implementation.

Participating librarians in Library A had eleven days to experiment with the system. In Library B, participating librarians had ten days. ALIS was made available to practitioners from the first day to the last day of the researcher's stay in both services.

Unlimited time was provided for these hands-on sessions to allow maximum freedom for the professionals to deal with the model. Therefore, no indication was collected on the duration of individual hands-on sessions.

4.4.5 QUESTIONNAIRES ON USE AND PERFORMANCE

Individual self-administered questionnaires with eleven open-ended questions were given out to the six professionals participating of the evaluation exercise, who were requested to make their appraisal and comments on 1) the rationale and content of the prototype, and 2) use and functionality of the model.

Questions 1 to 5 approached the rationale and content of the prototype in terms of its

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suitability/feasibility and desirability, as well as enquired on the adequacy of entries and definitions as displayed in the model, of referring to wider library resources, and referral to external organisations other than local ones;

Questions 6 to 11 covered the actual use of the prototype, i.e. searching, data entry, display menus and user interfaces.

Self-administered questionnaires on use and performance are contained in Appendices J and K, in their English and Portuguese versions, respectively.

4.4.6 INTERVIEWS ON IMPLEMENTATION

Finally, the six participating librarians were interviewed individually to discuss implementation issues regarding the prototype. Interview schedule was formalised into six structured open-ended questions to allow respondents enough flexibility for analysis and comments. Appendices L and M contain the questions designed for this section of the evaluation exercise in their English and Portuguese versions, respectively.

The following fundamental implementation issues were raised:

1. Areas of community-related information that should be added on to AILS;
2. Feasibility/Desirability of the underlining concepts implicit in AILS, i.e. information repackaging, the reference/referral framework;
3. Changes to be introduced in the system at design and operational levels;
4. Whether constraints outweighed advantages in AILS;
5. Whether libraries would be willing to pilot ALIS.

Individual interviews were recorded, and they lasted an average of two hours for each of the participants.

4.4.7 QUERIES COLLECTION

To verify whether the present prototype could (or not) be able to cope with real users' requests in a public library environment, a simple queries collection form was designed, enclosed in Appendices N and O in their English and Portuguese versions, respectively. The collection of these real users' queries was performed from December 7th to 11th in Library A, and from December 14th to 24th in Library B.

The following data had to be supplied for each query collected in the libraries visited::

1. The query - as requested by the Brazilian library user;

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2. Broad subject area the query belonged to - to identify major areas of community-related information concern as seen by Brazilian users and check whether these broad subject areas could fit in/be replied within the present prototype's conceptual framework;
3. How the query was answered - indication of the source of reply to the request, i.e. whether the library collection, the service files, referral, etc. had been used;
4. Satisfactory/Unsatisfactory result - in terms of finding an answer to the request.

Most of the queries were collected by the researcher during her stay in the libraries visited, although librarians in both libraries kindly agreed to fill up the forms while interviews were being performed. In Library A, users' queries received by the service are monitored already, and the form is very similar to the one used in this project.

4.5 JUSTIFICATION AND LIMITATIONS OF THE METHODOLOGY

In what follows, the choice and limitations of the methodologies used in this research project are examined.

The choice of a postal survey to obtain data on current procedures, find out more about community information, local studies and automation, as well as to gauge prevailing attitudes towards these issues was justified firstly because it provided a useful means to contact respondents who would not be contacted otherwise due to geographical distance and lack of previous professional acquaintance. Secondly, It allowed to gather current information on procedures and services of a selected number of representative Brazilian public libraries so that issues could be identified, procedures analysed and generalisations made (Busha and Harter, 1980) for the entire population of public libraries in Brazil. A postal survey in this case could save time and money, without sacrificing efficiency, precision and information adequacy required by a research methodology. Furthermore, the design of the postal survey also allowed for ease of completion and self-expression from the participants, who were encouraged to supply their own opinions whenever they felt there was a need.

Limitations of the postal survey were the lack of personal contact with the researcher to clarify the respondents on any doubt they might have come across while replying to the questionnaire.

Applied prototyping was justified as the core methodology for this project because it provided a vehicle to study, analyse, create, demonstrate and assess the complexities of designing a system within a development-oriented and non-dogmatic framework, as suggested by

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Gutierrez (1993). This author sees prototyping also as a process-driven development methodology used as a means for organisational experimentation.

Indeed, the choice of applied prototyping as the core methodology in this project was directed to demonstrate and express an alternative that could lead to organisational changes in providing community-related services. Applied prototyping in this context was also used to elicit responses to the system specifications so that debate on implementation issues could be generated. Moreover, applied prototyping with an existing library package approved by a leading Brazilian LIS institution and of international repute would be more likely to overcome barriers of system acceptance by the targeted population in Brazil.

Limitations of applied prototyping in the present context are due to the experimental character of this project, which was not aimed as a final product, but as a scaled-down version for further development and implementation.

The use of a combined set of techniques for evaluation of the prototype in Brazil which involved individual in-depth interviews with participants previous and post-prototype demonstration, prototype demonstration, self-administered questionnaires and data collection was justified by the following reasons:

a) Individual interviews and questionnaires with public librarians who agreed to participate in the evaluation exercise allowed firstly for clarification of issues that needed further explanations, such as the perception of concepts of community information and local studies and resources used for these services, if any. Secondly, individual interview schedules and the self-administered questionnaires were considered appropriate to obtain valid and reliable information on community-related issues, system use and implementation within a measure of control that also allowed for freedom for the participants to express their views whenever they felt there was a need.

Limitations of individual interviews were that close contact with the researcher as the interviewer might have led to a certain bias in the respondents to provide answers that, according to their views, would suit this research. Nevertheless, there was a serious effort from this researcher to keep the scientific detachment required by this research technique.

Limitations of self-administered questionnaires on system's use and performance were perhaps the limited space for respondents to reply to questions, although they were encouraged to fill in extra pages with data they might consider relevant to the research. The major limitation, nevertheless, might be attributed to the fact that in both libraries this was

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the first automated community-related information system professionals had the opportunity to assess.

b) Prototype demonstration followed by hands-on sessions was considered the most suitable form to encourage participants to use the system on their own, without interference from the present researcher, and

c) The collection of a sample of real users' queries submitted to the enquiry services of the participating libraries was mandatory, because of the need for a gauging mechanism whereby the system's suitability (or not) to reply to real community-related information needs in a Brazilian public library environment could be assessed.

Finally, the major limitation of the evaluation exercise was the fact that the prototype could not be tested on and by end users in Brazil. It is increasingly recommended that users should be involved in the different stages of system design, and that end users should participate at the very least in the evaluation stage. This is so because ideally system implementation should realise the end users requirements. Although the request was made to have a terminal for the general public to experiment with the prototype, none of the libraries could spare a terminal to this end. Reasons given by Library A, which had a computer in the service visited (but also not available to the end user) were that the computer had to be used by the service only for the time being due to the amount of work it was supposed to perform. A dedicated terminal to test ALIS was an impossible concession in the circumstances. In Library B, who had just started automating its procedures, there were no terminals available to the public at the time of the evaluation in Brazil.

Despite these limitations, the methodologies chosen allowed for data collection to draw a profile of current procedures and services provided by Brazilian public libraries, to gauge prevailing attitudes, as well as enabled the design and evaluation of the conceptual and practical model proposed in this thesis.

CHAPTER 5

RESULTS OF THE POSTAL SURVEY OF SELECTED PUBLIC LIBRARIES IN BRAZIL

5.1 INTRODUCTION

This chapter presents the analysis of results of the postal survey carried out with selected Brazilian public libraries in order to:

1. Obtain an overview of current procedures and services provided by Brazilian libraries to users;
2. Investigate the use of the locally generated data, especially community information and local studies in the libraries surveyed;
3. Assess public libraries' attitudes regarding self-image, community-related services and automation.

Data on collection, services, users, personnel and current situation of Brazilian public libraries is presented. Survey findings confirmed data previously introduced in Chapter 3, showing that community information and local studies supply are fields of modern public librarianship still to be developed in Brazil. Survey findings were also fundamental to bring to light the context wherein the present prototype would function and to provide a foundation for the prototype specifications introduced in Chapter Six.

5.2 PUBLIC LIBRARY COLLECTION

5.2.1 STOCK

Traditionally, public library collections in Brazil have been print-oriented, although Brazil has a strong oral culture. Brazilians are the product of the mix of three races, Europeans, Africans and native Brazilians, and of these three only Europeans placed the greatest importance in the written word. Africans and native Brazilians, on the other hand, had a culture heavily based on oral and visual traditions. Today, traces of these traditions can still be seen in the body paints of native Brazilians inhabiting the Xingu region, in the carnival parade in Rio de Janeiro and in the love Brazilians feel towards music, dance and colour. Library collections, nevertheless, do not reflect this reality, as most resources are mainly print and book-based (Cavan McCarty and Targino, 1984). McCarty and Targino (1984) attempted to draw the attention of LIS professionals and authorities for the need to build up audio visual resources in libraries to preserve and disseminate the Brazilian culture.

Likewise, developing countries like Brazil tend to have high illiteracy rates and a literate population with poor reading habits. According to IBGE - Instituto Brasileiro de Geografia e Estatística (the Brazilian Institute for Geography and Statistics), illiteracy rates in the country for 1993 were around 22% (Editora Abril, Almanaque Abril 1994, 1994). Thus, there may be a case for public libraries to start incorporating non-printed sources, such as audio visuals, to their collections in order to reach out for users that would not be attracted to the library otherwise.

Questions on stock therefore were aimed at obtaining an indication whether Brazilian public libraries collections were advancing towards the collection of resources in other formats than print-oriented material.

Findings for library stock are shown in Table 5.2.1-1 Library stock

Table 5.2.1-1 Library Stock

Library	Books	Newspapers	Periodicals	AV	Year
1	6940	10	20		1990
2	13000	1	6	1	1990
3	18,000				1990
4	21107	7	200	3	1990
5	28000				1990
6	28000			6	1990
7	34000	4	6	5	1990
8	39830				1990
9	40000	2	10		1990
10	40000	2	15	767	1990
11	45730	5	55		1991
12	50000	2	12		1991
13	52247	14	98		1991
14	77.553	12	10	103	1990
15	80000	2	4		1990
16	86560	10	30		1990
17	100000	2	846 issues		1990
18	120000	5	353 issues		1990
19	130000		5		1990
20	151995	14	76	10	1990
21	175847	26	29	10	1990
22	200,000	4	1		1991
23	237043		165	1355	1990
24	241142		1176	20658	1990

AV- audio visuals

These numbers show that collections rely heavily on printed material of the traditional type, i.e. books and local newspapers. Attention should be drawn to newspapers collections in public libraries, because in a developing country with weak or non-existent publishing houses newspapers may very well be the only source of regularly published local data. Seventeen libraries (or 70%) hold newspaper collections. Audio visual materials are not very representative in the large majority of Brazilian public libraries, although the following collections are worth mentioning

1. Mario de Andrade Library/Sao Paulo (20,658 items, including 4,933 maps), who also mentioned the regular organisation of video sessions, exhibitions and activities to take advantage of such resources;
2. Luiz Bessa Library/Minas Gerais (1,355 items) has a Visual Programming Officer, who organises the library's visual programme. This was the only library that mentioned it has 33 video playback machine for showing the early morning televised primary and secondary school programmes run in all public television channels in Brazil. Luiz Bessa also mentioned it has an agreement with local video shops for exchange and loan purposes;

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3. Public Library of Para with 767 visual items, a remarkable collection for a library located in one of the poorest regions of the country, the Amazon region, and

4. Origenes Lessa with 103 items, including maps, photographs and 10 educational videos. .

Additional comments on audio visuals should be made to complement the data introduced above:

a. Major cities in Brazil have museums and/or institutes for sound and image, so this may be another reason why many libraries still do not have many audio visual resources. However, as more and more information is packaged in audio visual format, there will be a greater opportunity for Brazilian public libraries to start collecting audio visual resources;

b. Many libraries receive current local newspapers as donation from the local press in the absence of a national library for newspapers in Brazil;

c. Some libraries are located in cultural centres, i.e. Municipal Library of Petropolis, thus indirectly may access audio visual resources and display devices, as well as participate in intense visual programming also lending their premises to this end.

Findings on stock therefore show that current public library resources are largely centred in the written word, making libraries accessible mostly to the literate elite and middle classes. Collections of local newspapers found in most of the libraries surveyed, nevertheless, may reflect interest in preserving data referring to the immediate community or region. In the lack of a national library for newspapers in Brazil, it may be in the public library that this important source of local data is collected, preserved and made available to all.

There are is some evidence that non-printed media is slowly attracting the attention of Brazilian IS scholars (McCarty and Targino, 1984), and that some public libraries, i.e. Mario de Andrade and Luis Bessa, are already organising events and placing emphasis on audio visual resources. This shows that public libraries are becoming more proactive towards the use of their non-print resources.

5.2.2 ACCESS TO STOCK

Out of a total of 24 libraries, 11 have open access to all stock and thirteen have both open and closed access. Closed access included rare works, special collections, audio visuals and periodicals. Open access sections included general fiction, reference, national literature, Braille and legislation. These are, traditionally, some of the most widely used library sections by the general library user.

It is important to point out that Brazilian public libraries tend to have major works of national literature available both for reference/study in the premises and for circulation. Due to the scarcity of school libraries in the country, it is usually the local public library who has to fulfil this role for primary and secondary school users. It seems therefore clear that Brazilian public libraries seem to be committed to provide users with open access to the libraries' most sought-after resources.

5.2.3 CATALOGUING, CLASSIFICATION AND ACQUISITION

The majority of libraries (87%) used the Anglo-American Cataloguing Rules; one library uses both AACR2 and Vatican, and two use Vatican Cataloguing Rules only. The two libraries who use the Vatican system were the following: 1) Public Library of Bahia State, the first public library founded in Brazil in 1810, and 2) the Municipal Public Library of Petropolis, founded in 1871, in the town that still houses the Imperial Palace and Museum, summer residence of the Brazilian Imperial family.

The majority of libraries (23 out of 24, or 95%) use card catalogue. Even libraries that have been dealing with computers for a longer time (two libraries mentioned automated catalogue only, Mario de Andrade/Sao Paulo and Monteiro Lobato/Sao Bernardo do Campo) still keep their card catalogues. These two libraries were the only ones to mention they also had microform catalogues. Only one library has a book form catalogue.

On the types of catalogue available, all libraries seem to have a subject index catalogue, and the traditional author/title catalogue. Only three libraries have online catalogues (Mario de Andrade as a bibliographic database, and Monteiro Lobato of Sao Bernardo do Campo and Public Library of Para have online catalogue integrated with circulation).

Most cataloguing was carried out in the libraries surveyed: findings showed that 23 out of 24 libraries do their own cataloguing, illustrating the fact that cataloguing in the vast majority of Brazilian public libraries, not only public ones, is an in-house activity due to the lack of co-operatives such as the OCLC - Ohio Online Computer Library Centres, LASER - London and South Eastern Region networks, which produce catalogues and distribute them to participating libraries. Only one library (Public Library of Parana) mentioned it participates on the Brazilian shared cataloguing scheme, CALCO/BIBLIODATA Network.

The Calco/Bibliodata Network aims at creating the infrastructure for library services in Brazil through shared cataloguing. It was started by the library staff of the Getulio Vargas Foundation (Fundacao Getulio Vargas - FGV), based on the USMARC II.

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Basically, co-operating libraries send their forms to FGV, who processes them and sends the libraries magnetic tapes with the library's production recorded according to the CALCO format. Tapes follow ISO 2709 guidelines and the CALCO exchange format (Decourt, E. 1987). In 1987, there were 21 co-operating libraries, the majority being university and special libraries (Decourt, E. 1987). Present findings confirmed this continued to be so, as only one public library mentioned this initiative.

Still on cataloguing, cataloguing-in-source is produced in Brazil by a) the Sindicato Nacional de Editores do Livro do Rio de Janeiro (the National Book Union of Publishers of Rio de Janeiro), and 2) by the Camara Brasileira do Livro de Sao Paulo (the Brazilian Book Chamber of Sao Paulo). These institutions supply cataloguing-in-source to publishers associated to them.

ISBN numbers are provided by the National Library, and up to 1985 172 publishing houses were filed with the National Library (Aronovich, 1985).

Cataloguing is therefore an in-house activity in Brazilian public libraries, which may lead to discrepancies and constitute a hurdle for resources-sharing among libraries.

Cataloguing backlogs seemed not to exist in 13 libraries (or 54%) out of a total of 24 returns. Uncatalogued resources specified were the following: rare works and special collections being processed (4 replies), collections recently acquired (1 library), periodicals (2), leaflets, ephemera and clippings, newly acquired audio visuals.

On classification, Dewey was the preferred classification system (19 libraries out of 24, or 75%). The remaining five libraries used the Universal Decimal classification. Libraries that did mention the edition of Dewey used stated from 15th to 20th edition. In Brazil, translations of Dewey, UDC and AACR, etc. to Portuguese language are carried out by IBICT, the Brazilian Institute for Scientific and Technical Information.

In terms of acquisition, twenty-three libraries out of 24 returns have manual acquisition systems. Only one library (Mario de Andrade/Sao Paulo) has both online and manual acquisition systems.

5.2.4 PUBLICITY

On tools used to draw the public's attention to the stock and services, results are the following:

1. All libraries (24) display new acquisitions;
2. Leaflets advertising services and data on the history of the library were mentioned by 22

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out of 24 libraries;

3. Guided library tours were carried out by 13 libraries, i.e. more than half of all libraries surveyed;

4. Only one library (Luiz Bessa) mentioned it has two institutional videos for publicity purposes.

Libraries also organise and/or cultural, educational and/or leisure activities, such as: exhibitions were mentioned by 22 out of 24 libraries; conferences were organised by 16 out of 24 libraries; children's activities were organised by 15 out of 24 libraries; recitals were mentioned by 14 libraries; special reading sessions by 13 and literary competitions by 10 public libraries out of a total of 24 returns.

As a whole, data shows that these selected Brazilian public libraries do try to sponsor/organise some type of educational, cultural or leisure activities.

Other activities mentioned were the following:

- a. Public Library of Parana: courses, talks and seminars;
- b. Public Library Epiphaneo Dorea: book fairs;
- c. Luiz Bessa: courses on literature, painting, creativity, book signings, book exchange fairs, etc.;
- d. Mario de Andrade: courses, video sessions, exhibitions, etc..

This data confirms that public libraries in Brazil have embraced seriously the task of preserving and sponsoring cultural activities in their communities. However, these activities are still very much linked to high culture, i.e. literature, talks, courses, seminars, etc., which may account for the criticisms that the public library in Brazil is not a 'popular' library, meaning belonging to the people, as pointed out by Flusser (1980) in Chapter 3, because it caters for the needs of a community elite represented mostly by the literate middle and upper class.

5.3 RESOURCES

5.3.1 FINANCIAL RESOURCES

Libraries were requested to state their sources of financial resources. Results were the following:

- 1. 22 libraries out of a total of 24 received the bulk of their financial resources from the states they belong to;
- 2. Twelve libraries (or 50%) mentioned they also received resources from their municipalities;

3. Federal resources were received by six libraries only (25%).

Libraries were asked whether they received resources from various sources, such as the National Book Institute, local publishers, local and central government, the private sector, users, etc. Respondents could choose as many options as applicable.

Twenty-two libraries out of 24 received resources from the now extinct National Book Institute (INL). Local publishers were quoted by 19 libraries (79%), local government and users quoted by 18 libraries (75%), central government and private sector by 14 libraries each (or 58%). Other sources of resources were the following:

- a. Public Library Origenes Lessa receives signed works from several local writers;
- b. Public Library Luiz Bessa receives books and resources from international organisations and consulates;
- c. Popular Library of Copacabana received resources from its 'Friends of the Library Society' and from local writers.

Libraries were asked whether they had a *Friends of the Library Society*. Out of 24 returns, six (or 25%) replied positively. Of the remaining, two libraries are planning the set-up of their Friends of the Library society shortly. This constitutes a good development, because a public library with the support of a Friends of the Library society made of members in the community is more likely to be able to respond to the needs of its users, as well as find a voice of its own to defend the library's interest when need be.

The fact that public libraries mentioned that they do receive resources from local publishers and private sector, and that they are engaged in creating local 'Friends of the Library' societies demonstrates that Brazilian public libraries can rely to a certain extent on their communities to support them in terms of collection-building and maintenance. This is an important factor, because public funds for public libraries may be hard to obtain in Brazil due to choices favouring housing, health and education programs instead. A public library that collaborates with its local private and publishing sectors may get greater support to lobby on public library matters. Due to local support these public libraries may be more capable to resist certain political and economical pressures in times of political and economical instability.

With regard to the number of public libraries in relation to the population, 22 Chief Librarians out of 24 considered inadequate or very inadequate the number of public libraries in relation to population in the country in last five years.

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Brazil's population approached 190,000,000 million inhabitants in 1993 (Editora Abril, Almanaque Abril 1994). This number is not, nevertheless, evenly distributed across the territory of 8,511,000 square kilometres: 60% of the country's population lives in the coastal areas of the Southeast, whereas the Amazon region is scarcely populated. The same uneven distribution is seen for public libraries across the country. The case of the researcher's hometown, Porto Alegre, illustrates this fact very well. Porto Alegre has a population of 1,5 million inhabitants and only three major public libraries. Thus, each library theoretically has to cater for the information needs of half a million people, an enormous task even for the most well-equipped libraries. The number of public libraries is therefore very inadequate if compared to the population in Brazil.

In terms of funding for buildings and equipment, the majority of libraries (21 libraries or 77,5%) considered funding for library buildings and equipment inadequate or very inadequate; the remaining three libraries considered funding 'neither adequate/inadequate'. No positive or very positive reply was given.

Libraries were requested to state whether, as a whole, they were highly regarded by the authorities responsible for them. None of the libraries agreed strongly: only one (4,2%) agreed with the statement., three out of 24 libraries surveyed (or 12,5) disagreed strongly, and the bulk of replies opted by the neutral and disagreement alternatives (both 10 replies each, amounting to 83%).

Zamora (1991), who gave an overview of library resources in Latin America, made a statement it is worth quoting in full:

"It can be affirmed that the authorities and society in Latin American countries are unaware of the importance of libraries and the services which they offer. Consequently, they neither receive adequate government support nor sufficient economic resources to establish the infrastructure necessary to function adequately." (46p)

Nevertheless, she added that this situation seemed to be changing in the last few years, except for school libraries, reflecting a gradual interest in library services. .

These findings confirm data previously introduced in Chapter 3, showing that public libraries have been indeed under-resourced.

5.3.2 PERSONNEL

Regarding personnel, the first question asked for numbers of LIS graduates, non LIS graduates, qualified and non qualified library assistants. Only one library did not have a LIS graduate in the premises. The high rate of libraries with qualified professionals was expected, because the library profession has been ruled by law in Brazil since 1964 (Kent, 1986), and

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according to the law libraries must be run by LIS qualified personnel. Currently, there are twenty-five Librarianship Councils in Brazil, located in the state capitals of the federation, and one National Federation of Librarianship (Zamora, 1991). This shows clearly a degree of organisation for the library profession in Brazil.

The second question regarding personnel was related to reference services. Libraries were asked to state whether their reference services were staffed by personnel with a LIS-related qualification. Findings showed that although reference work is largely done by qualified LIS personnel (20 out of 24 libraries), interaction with the user in the enquiry desks is largely done by library assistants (17 libraries out of 24), who may not have the skills and knowledge to identify and respond to user queries ranging from the simplest to the most complex. Although an unqualified library assistant may have communication skills and the willingness to serve patrons, reference work should be provided by qualified staff, properly trained and with genuine interest in working with all sorts of users. As public libraries advance also in the direction of orientation and learning, becoming therefore the first place where one finds out about a subject or concern before taking action (Allred, 1994), the reference personnel should be trained to face these new and wide-ranging responsibilities.

Regarding qualifications of public library personnel, Chief Librarians chose the neutral option 'neither adequate/inadequate' (7 libraries or 29%) and 'inadequate' (10 libraries, or 42%). Four libraries (or 16%) considered qualifications of public library personnel in the last five years 'very inadequate' and only three (or 12%) considered qualifications 'adequate'. One library that had just started automating the service (Origenes Lessa of Lencois Paulista) added that *'it is not always that we receive personnel with adequate library training.'*

Whether public libraries saw themselves as having a high profile in their communities, the bulk of replies were negative, with 14 libraries (or 58%) disagreeing with this statement, and 10 neutral replies (or 41%) neither agreeing/ disagreeing with the statement.

To illustrate this fact, Litton, quoted in Zamora (1991) affirmed that:

"even though the number of professionals in Latin America continues to grow, their salaries and status have not improved proportionally. The exaggerated inferiority of librarianship in relation to the other professions has diminished in certain countries, but we feel that the majority of Latin American librarians consider their situation subservient, especially when comparing salaries and status with their colleagues in other fields" (51p)

Clearly, these results spell out, unfortunately, the low self-image public library personnel have of themselves in Brazil.

5.3.3 EQUIPMENT

Libraries were asked on the availability of equipment for information display. This question

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was aimed at checking whether libraries were actively moving towards equipping themselves to handle information in formats different from hardcopy.

Only one library out of the 24 returns said it did not have any of the suggested equipment. Overall, libraries seem to have available for users photocopy machines (15 libraries or 62%), TV sets (10 libraries, or 41%) and video cassette recorders (8 libraries or 37%). Telephones seem to be for library staff use only in the majority of libraries surveyed (15 libraries out of 24).

Other devices mentioned were slides and transparencies projectors (4 libraries), 16mm and 8mm film projectors (2 libraries), microphones (2 libraries), tape decks and big screen (2 libraries), Braille readers.

Additional data provided on equipment availability was that one library uses its municipality's TV sets, record players, video devices and fac-simile (fax) machine whenever necessary.

As more and more information is being produced and/or repackaged in non-print format and considering the needs of 22% of Brazilian users who cannot read but perhaps could be reached out or helped by data in audio visual format, it is important to draw the attention of Brazilian public libraries to collection building also in other formats different from hardcopy.

5.3.4 COMPUTERS IN THE LIBRARY

Eight libraries out of 24 (33%) replied they had computers. Four had just started automation, and as such did not supply data on usage. One library (Bahia) intends to use Micro-Isis.

Libraries with experience in automation supplied the following data on their use of computers in their environments:

1. Public Library Monteiro Lobato of Sao Bernardo do Campo, the first public library in Brazil to be automated in early 1980s, uses computers for 'technical processing' or housekeeping, i.e. cataloguing and circulation;
2. Mario de Andrade Public Library/Sao Paulo has an online public access catalogue, and uses DOBIS/LIBIS, the IBM integrated library system that supports acquisitions, cataloguing, circulation and online catalogue;
3. Public Library of Parana State uses computers for co-operative cataloguing within the CALCO/BIBLIODATA Network, and

4. Public Library Luiz Bessa uses computers for cataloguing and circulation.

Libraries with computers were requested to specify plans for computer use in their premises. Out of eight returns, two did not specify plans, one supplied the ambiguous 'other sectors after housekeeping', three libraries mentioned housekeeping, and only one mentioned cataloguing of rare books.

Although housekeeping and circulation seem to have led public library automation worldwide, present findings demonstrate that Brazilian public librarians seem to be quite modest in their plans for computer applications in their environments. No community-related initiative was mentioned, thus encouraging the follow-up of the present research project in this direction.

Libraries with no computers were queried whether they could indicate a time scale to acquire one for the premises. Out of the 16 libraries that did not have computers, three libraries, or 18%, mentioned they intended to acquire one in the coming year, two libraries replied in the next two years (12%), one replied in the next five years. Ten libraries replied they would acquire computers in a longer term (62%). Overall, it seems that the automation of major public libraries in Brazil is bound to continue in the years to come.

Brazilian professionals showed, on the whole, a positive attitude towards public library automation. When asked whether the computerisation of public library services in Brazil could provide a crucial factor for a more efficient library service in the country, findings were positive.

Out of 24 returns, 23 were useful. One library did not answer, stating it had not understood the query. Otherwise, attitudes towards automation were positive: 15 libraries, or 65%, replied they agreed strongly or agreed that computerisation can be a development tool for Brazilian public libraries. More cautious neutral libraries accounted for 4 replies, or 17%, and the negative option (disagree/disagree strongly) was also given by 4 libraries or 17%.

The fact that no plans for community-related information supply was mentioned by libraries with computers in Brazil may also demonstrate that automation packages available or designed for Brazilian public libraries may not have as yet modules for community-related information supply. In the cases of GEAC and URICA, major producers of library automation software in Great Britain for example, library-based systems come with modules libraries can customise for community-related information provision. In Brazil, it seems that community-related services have yet to find a powerful tool in automation. It was, nevertheless, encouraging to see that overall attitudes towards public library automation in

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Brazil were positive. In the light of these findings, the thrust for the present research was confirmed: the design of an automated alternative for the organisation of community-related data could make a contribution for library and information studies in that country.

5.4 PUBLIC LIBRARY USERS

Figures for library users are supplied in Table 5.4.1-1 Library's main users.

Table 5.4.1-1 Library's main users

Users	Number of Libraries
General public	21
Primary/Secondary school children	24
Teachers	20
Students	16
Researchers	15
The blind	2
Artists	2

All considered primary and secondary school children as their major users. This may be due to the fact that school libraries are either ill-equipped or non existent in a developing country like Brazil, and as such public libraries have to fulfil their role. In Brazil, school is compulsory by law up to 14 years of age for both sexes, and should be provided free by the local government. The general public was considered the second major group of public library users. This may constitute a positive sign that Brazilian public libraries may be of use for the wider community as a whole, e.g. homemakers, old age pensioners, workers, etc. Other less frequent users were the blind and artists.

On the fact that public libraries are used massively by school children, Macedo (1990) spells this out very clearly stating that in Brazil, in regions or municipalities where school libraries may be missing, *'the public library should undertake the functions of a school library especially providing guidance to primary and secondary school children, and this should be done by qualified staff'* (29p). She supports the argument that the public library belongs to all, and that it should serve with the same standards and attention the homemaker, the professional, the old pensioner, the illiterate and the young at school age.

Libraries were requested to supply statistics/estimates of users within a specific annual/monthly/weekly basis. Findings are shown in Table 5.4.1-2 Approximate number of users.

Table 5.4.1-2 Annual approximate number of users in the libraries surveyed

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Table 5.4.1-2 Annual approximate number of users

Library	Users	Time Scale	Year
1- Chapada PL	500	yearly	1990
2-R. Barbosa(Colombo)	4,420	yearly	1990
3-Rolf Collm	6,000	yearly	1990
4-Getulio Vargas (S C)	6,000	yearly	1990
5-Alagoas	9,600	yearly	1990
6-Epiphaneo Dorea	10,400	yearly	1990
7-Piaui State	14,400	yearly	1990
8-Gladstone Marsloo	30,000	yearly	1990
9-Origenes Lessa	36,000	yearly	1990
10-Petropolis	73,200	yearly	1990
11-Amazonas State	124,800	yearly	1990
12-PL of Copacabana	130,000	yearly	1990
13-Rio G. do Sul State	156,000	yearly	1990
14-Pres.Castelo Branco	179,610	yearly	1990
15-Bahia State	249,600	yearly	1990
16-Nair Lacerda	54,350	1st quarter	1990
17-Luiz Bessa	378,210	yearly	1990
18-Monteiro Lobato	609,260	yearly	1990
19-Paraná State	840,000	yearly	1990
20-Mario de Andrade	840,268	yearly	1990
21-Paraná State	1,102,455	yearly	1990

Three libraries did not supply figures for users. Without figures for previous years, it is unsafe to make considerations on general public library usage. Interpretation must therefore be cautious in detail and can rely only in broad trends. Nevertheless, these findings show that public libraries are used in the country, and one library, Public Library of Parana, located in the city of Curitiba, recorded the number of more than one million users in 1990. This means most of this city's population may have been to the library once throughout this year.

The reasons for this great number of users were not given, but Parana' is one of the Brazilian states which have experienced much growth in the last few years. Proximity to the major Brazilian industrial and agricultural centre, the neighbouring state of Sao Paulo, and more importantly, a succession of state governors committed to promote local development by supporting the existing infrastructure may account for this. Also, the state seems to have a tradition in public libraries, because its public library was the 7th opened in Brazil in 1857 (see Appendix A).

5.5 PUBLIC LIBRARY SERVICES

5.5.1 OPENING HOURS

Libraries were requested to state opening hours and days of the week. This question aimed at gathering a measure of public library availability to users, i.e. to identify public libraries were open beyond normal school or work hours in order to grant access to the school and/or labour force population to the library. By law, Brazilians should not work more than 8 hours a

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day, 5 days per week (Mondays to Fridays). Schools, on the other hand, offer morning and afternoon classes (8am-12pm, and 1.30pm-5.30pm). Evening classes (7.30pm-10.30pm) are also available for mature persons.

Out of 24 returns, 23 replies were useful: one library did not supply closing hours. Table 5.5.1-1 Opening hours of public libraries surveyed shows the findings for this query.

Table 5.5.1-1 Opening hours of public libraries surveyed

No. of Libraries	Hours/Day	Saturdays	Total Hours
3	10		50 p/week
1	10	4	56 p/week
2	11		57 p/week
2	11	3	58 p/week
3	11	4	59 p/week
2	11	5	60 p/week
7	11	8	63 p/week
3	12	8	68 p/week

The minimum opening hours for the public libraries surveyed were 50 hours per week, the maximum 68 hours/pw. This shows an average number of 59 hours/pw, many are open on Saturdays and Sundays. Public libraries long opening hours seem to reflect a real effort to provide access to all sorts of users in Brazil.

5.5.2 LIBRARY SERVICES

Public libraries mentioned the following services to the public:

- 1. Enquiry/Reference services are provided by all libraries;
- 2. Loans (20 out of 24 returns, or 83%);
- 3. Bibliographic searching (15 libraries or 62%);
- 4. Special services for industries (4 libraries, or 16%).

Other services provided were the following:

- a. Research for local schools, universities and children activities (Popular Library of Copacabana, Rio de Janeiro), an activity which in developed countries would probably be more likely to be carried out by school libraries. Thus, we have public libraries called to fulfil this important role to support education, confirming that school libraries are even more scarce or not available to provide this service;
- b. Services for the visually impaired, bookmobiles and bookbox services (4 libraries);
- c. Mario de Andrade Library mentioned its community information service, the 'Information Balcony'. This was the only library that mentioned a community information service so far.

Therefore, when asked on their general library services, responses showed that the majority

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of services were of the traditional kind, i.e. reference, loans, bibliographic searching, research for local schools and services for the visually impaired. Outreach services to the community were mentioned by four libraries in the form of bookmobiles and bookbox services, and only one library mentioned its community information service called 'The Information Balcony'. On the other hand, services which could belong to the category of local studies were mentioned equally by four libraries, who said they rendered special services to local industries, ranging from bibliographic searches, quick reference and referral.

In Chapter 3, it was stated that awareness of community information and local studies services in Brazil was low. Survey findings seem to confirm this fact with only one specific reference to community information, and none to local studies, although services were mentioned that could belong to this category, i.e. special services for industries. Nevertheless, further questions proved that there is some activity both for community information and local studies supply in Brazilian public libraries. The fact remains, however, that an awareness of community information and local studies supply seems to be low in Brazil presently. Community-related services are yet to be considered as important as traditional public library services such as reference and loans to be immediately identified and spelled out by most Brazilian public librarians.

5.5.3 REFERENCE SERVICES

Libraries were asked whether they had a reference section in their premises. All 24 libraries replied affirmatively to this question.

Reference services mentioned were:

1. Enquiry Desk;
2. Bibliographic searching (15 libraries or 62%);
4. Special services for industries (4 libraries, or 16%).
5. Research for local schools, universities and children activities;

Thus, reference services belong to the traditional kind, with four libraries mentioning services for industries as special reference activity.

In terms of resources for the reference section. all twenty-four libraries have dictionaries and encyclopaedias in their reference collections. This is not surprising, because the now extinct National Book Institute, a great sponsor of public libraries, organised and published Brazilian encyclopaedias and dictionaries, as well as been the sponsor of many other significant publications (Kent, 1986). Libraries also mentioned yearbooks (23 libraries), atlases (22 libraries), bibliographies (21 libraries, or 87%), indexes (19 libraries or 79%). Directories were mentioned by 17 libraries only, the least chosen option, together with statistics. Other

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resources mentioned were in-house folders containing newspaper and periodicals clippings, photocopies of specific areas/subjects considered relevant to users, ex. AIDS, ecology, etc. One library had a special reference section on cinema.

Libraries were requested to indicate whether they had organised any of the following special reference tools: glossaries, thesauri, abstracts for books, data to solve everyday needs/concerns, such as the health, the law, jobs, etc., data related to the locality and others. They could mark as many options were applicable to their case. Findings were the following:

- a. In-house production of glossaries: five libraries or 20% out of 24 returns;
- b. Thesaurus: mentioned by one library, but did not specify area;
- c. Additional printed production mentioned by libraries were: bibliographies of local authors (4 libraries); printed catalogues for rare books and special collections, and the organisation of calendars for local events (two and one library respectively)..

None of the libraries mentioned the printed production of local data to solve everyday concerns or data related to the locality, although two were involved in preparing catalogues of special collections and one in the compilation of a calendar for local events. These two activities may be considered within the local studies framework.

This confirms data introduced in previous chapters on the general scarcity of reference sources in developing countries, where even the simplest pieces of information such as public transport timetables, taken for granted in the developed world, may be missing (McCarty, 1982).

5.5.4 COMMUNITY INFORMATION SERVICES

Results of the two previous questions demonstrated that community information services in Brazilian public libraries were mentioned by only one library (Mario de Andrade, Sao Paulo). In order to prod whether public libraries might provide the service, but not under its terminology as accepted in the developed world, libraries were requested to indicate whether they had local data on hospitals/health services, legal aid, local schools/learning centres, government agencies, local authorities, job-related information, personal identifications and documents (ex. passport, driving licence, etc.), community events, etc.

Table 5.5.4-1 shows data for community information supply in Brazilian public libraries.

Table 5.5.4-1 Community information in libraries

Community Information	No. of Libraries
Hospitals/health services	6
Legal Information	4
Schools/learning centres	10
Government agencies	9
Names of Councillors	9
Jobs (centres/advice/info)	3
ID pack (passport, etc)	6
Community events	8
Others	3

Twelve libraries (50% out of 24 returns) replied they had some of the data above. This means that half the libraries who replied do not have any of the reduced range of community information data suggested. A closer look at the table shows that only three libraries (12%) provide all the general data stated in the query (Mario de Andrade, Origenes Lessa and Monteiro Lobato/Sao Bernardo do Campo), all located in one Brazilian state only, Sao Paulo.

The lack of job-related and legal information supply is particularly distressing in a country with a large population of young people needing training and that is embracing democracy and major political changes reflected mainly in the legal and social spheres.

An important comment was made by Mario de Andrade Public Library/Sao Paulo, the only public library in this survey that defined its data and service as *'capable of supplying all information available in the library for the day-to-day life of any citizen, to help him/her exercise full citizenship.'* This is the closest statement from a Brazilian public library that conforms with the philosophy of community information supply in the developed world.

To find out whether Brazilian public libraries saw community information as a special reference service (or not), libraries were asked whether they supplied local community-related data to users separate (or not) from the reference service. In case they did it separately, libraries were requested to supply the name of it.

Only ten libraries out of 24 returns supplied community information to users. Half of these libraries (5) do it as part of their general reference services, whereas the other half (5) attributed a special name and status to it.

As far as names were concerned, two were called 'Information Balcony', and the others were 'Library and Telephone Information' and 'Public Enquiry Service'. One library did not supply a name for the service, whereas another mentioned that its service is not operational at the moment due to lack of staff. Nevertheless, it remarked that it has material to supply this sort of information to users. This may be an important remark, because it confirms that

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one of the places where community-related information is actually stored in Brazil is in the public library, despite the fact that the concept and understanding of it is yet to be developed.

Libraries were requested to indicate the number of enquiries they received on community-related topics based on their statistics or records.

Before we proceed to analyse the data provided by Brazilian professionals, it is important to mention that library data collection and statistics on the whole are still to be systematically developed in the country. Figueiredo (1988), in her review of library data collection in Brazil, reported that the lack of statistical data was a reflection of the general situation in the country, which, until late 1970's, did not have a Ministry of Planning or State Secretaries for Planning. Libraries which did collect reliable statistics belonged to the biomedical sciences and the Institute of Applied Mathematics of the National Research Council perhaps due to the requirements of these work environments. She concluded her review with an optimistic note, saying that interest in library statistics was growing due to the impact of UNESCO's and IFLA's recommendations on standardisation of library statistics and the set-up of four LIS graduate courses concentrating in the areas of library planning and administration. Zamora (1991) in her overview of library resources in Latin America, also remarked the lack of information regarding libraries and their services published on a regular basis, and more importantly, that the lack of this fundamental data made planning for LIS in the region very difficult.

Out of the eleven libraries who offered community information to users, seven libraries replied they did not have this data available or estimated, confirming data introduced above on the lack of library statistical data in Brazil.. Three libraries, nevertheless supplied the term 'variable', which is ambiguous and inconclusive. The four libraries which did supply numbers and keep track of enquiries received were the following:

1. Public Library of Para: average of 50 requests per week;
2. Public Library Nair Lacerda: 30 per month, average 10 per week;
3. Public Library Castello Branco/Recife, with 500 requests per month;
4. Mario de Andrade Library of Sao Paulo, with 1,300 requests annually;

These figures seem to indicate that there is a demand for community information services in Brazilian public libraries, especially if taken into account the numbers for public libraries Castello Branco and Mario de Andrade.

On the main sources of community information data used by libraries for printed sources, own files and a combination of both, ten replies (or 41%) were useful out of a total of 24

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returns. Only one library mentioned own files (4%), and the seven remaining (29.% out of 24) used a combination of own files and printed sources.

Libraries who did create their own community-related information files were asked to indicate which subjects these files covered. Useful replies were the following:

- a. Seven libraries (Popular Library of Copacabana/Rio de Janeiro, Public Library of Para State/Belem, Luiz· Bessa/Belo Horizonte, Rui Barbosa/Lencois Paulista, Catello Branco/Recife, Nair Lacerda/Sto. Andre, Epiphaneo Dorea/Aracaju) mentioned newspaper and periodical clippings covering up-to-date topics not found in the library collection;
- b. Castello Branco Library/Recife mentioned news on the state, activities and profiles of local and national authorities and politicians, and
- c. Public Library of Para State mentioned academies of letters, artists, professional associations, travel agencies and libraries, housing, consumers' rights, publishing houses, cultural animation groups, etc.

Thus, from these results it seems that the creation and maintenance of in-house folders/files for community information supply, although not systematic and very much dependent on the resourcefulness of reference personnel, constitutes an attempt to provide this service to users.

Libraries were queried on how the data in files was made available to users. Nine replies (37%) were useful. One library said data was available on a self-service basis; one said through the library staff and seven libraries (29% out of the total of 24 libraries) mentioned a combination of self-service and via the library staff.

Users' access on a self-service basis and staff assistance when need be are highly desirable for community information supply. Users should be given the opportunity to browse and search the resources by themselves and at the same time know that assistance is always at reach from the library staff. The same figures were valid for printed resources and users' access.

Libraries were asked whether they supplied community information to other institutions and who they were, if any.

Nine replies were useful. Three libraries (30% out of a total of 9, and 12.5% out of the total of 24 returns) did not supply data to any other institution. The remaining six libraries (or 70%,

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and 25% out of the total of 24 returns) specified the following: institutions that contact the library, schools (mentioned by 3 libraries), universities, libraries, archives, the press, TV, museums and cultural producers, government and state-owned institutions.

On the issue whether the compilation and dissemination of community-related information in the public library could constitute an important service to increase the number of library users, findings were very positive. There was only one neutral reply (or 4%), the remaining 23 returns out of the total of 24 'agreeing' with the statement (15 libraries or 62%) and 'agreeing strongly' (eight libraries or 34%).

This finding was encouraging for the present project, because it shows 1) librarians are receptive to these issues despite the fact that the concepts of community information and local studies have yet to be fully developed in Brazilian LIS, and 2) that practitioners may be willing to advance initiatives in this direction given the positive response to this query.

5.5.5 LOCAL/STATE HISTORY SECTION

Questions on whether Brazilian public libraries had some sort of local studies-related services, resources and/or activities available to users had to be indirect because of the lack of current evidence of local studies activities available in Brazilian LIS, as reported in Chapter 3. Therefore, libraries were asked firstly whether they had a local/state history section in their premises. Out of a total of 24 returns, 16 libraries (or 66%), replied they had a state/local section. The remaining eight libraries (or 34%) did not.

On resources pertaining to the local/state history section, 15 out of 16 returns replied they keep book collections; 10 libraries keep also newspapers and periodical collections, 8 have maps collections, with audio visuals such as photos and films not very popular (mentioned by only five libraries or 33%).

Further data provided were the following:

1. Petropolis Municipal Library has the local Historical Archives, with approximately 301,600 documents from 1871 to 1968. Note that the date of 1968, when the library stopped collecting historical documents, coincides with the signature of the Institutional Act Number 5, which started the dark years of censorship in Brazil until early 1980s;
2. Library Luiz Bessa/Belo Horizonte receives tapes from local artists, and
3. Public Library Monteiro Lobato/Sao Bernardo do Campo stores the municipality's administrative documents, such as bills and by-laws, in the local section.

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Finally, libraries were asked whether they received copies of current material (books, periodicals, audio visuals, etc.) published and/or related to the state/local community. The aim was to check the library's involvement to attract the locally generated resources by any conceivable means. Out of the total of 15 libraries that have local local/state sections at the moment, ten (or 66%) received current local generated resources from the community. The following suppliers were mentioned: government institutions, including councils and Secretariats for Cultural Affairs; b) the press; c) local Book Institutes; d) private enterprises, e) publishing houses, and f) local authors and artists.

5.5.6 PUBLIC LIBRARIES IN CULTURAL CENTRES AND COMMUNITY INVOLVEMENT

Libraries were asked whether the tendency to place public libraries in cultural centres in Brazil (as previously reported in Chapter 3) constituted a favourable development, bringing them closer to the community. Respondents seemed to see this as a positive initiative, with an agreement rate of 75% (18 replies out of 24). Four libraries (or 17%) were neutral, and only two remaining libraries (or 8%) disagreed. Public Library Para State added the following comment: *'We believe that modern and dynamic public libraries constitute cultural centres.'*

In a developing country like Brazil, where public libraries are still not fairly well known by the general public, the location of public libraries in cultural centres may make them more visible to a larger number of users. Nevertheless, a passive public library located in a highly visible site is not bound to reach out or keep its users and grow in the respect of the community. More research is needed to assess advantages and impact of cultural centres on the growth of public libraries in Brazil.

5.5.7 CO-OPERATION

Brazilian public libraries still work very much in isolation. There is, nevertheless, some evidence of co-operation, in general involving the public library and local LIS-related schools. For the purposes of this project, it was important to have a measure of public library co-operation with institutions other than sister libraries.

Libraries were asked whether closer involvement with library and information science schools and public libraries in Brazil could be beneficial to provide a channel for the exchange of ideas and experiences between practitioners and the academic community, especially regarding IT.

Findings were very positive. Fifteen libraries (or 62% out of a total of 24 returns) agreed with this statement, seven libraries (or 30%) agreed strongly, and the remaining two libraries (or 7.5%) were neutral.

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Some libraries pointed out that they have trainees from local LIS schools on a regular basis. Public Library Luiz Bessa (MG), for example, mentioned that it works with the School of Librarianship, the School of Economics and the School of Letters of the Federal University of Minas Gerais by means of long-standing agreements. Many other libraries follow the same policy.

Co-operation with institutions in the community, a fundamental aspect of community-oriented services in developed countries, is still incipient in Brazil. In most cases, it is still restricted to donations for the collection, some projects involving local schools and services to industries mentioned by four libraries. Nevertheless, there is a move towards a closer public library involvement with the private sector, schools and the general public mainly via the Friends of the Library Societies. Indeed, the isolation of Brazilian public libraries from their community leaders outside the local authority is an issue that should be brought to the attention of LIS planners.

5.6 SURVEY FINDINGS AND THE PRESENT RESEARCH

Survey findings provided the context for the present research, confirmed the assumptions introduced in previous chapters about the low awareness of community-related information services in Brazilian public libraries and provided the basis for decision-making concerning the prototype design introduced in detail in Chapter 6.

a. Profile of public libraries:

The profile that emerged from the Brazilian public libraries surveyed is that they seem to be, on the whole, document keepers and lenders. Evidence shows that public libraries are yet to advance towards becoming information suppliers for their communities.

The data on collections showed that the stock is made up of mainly book and printed material, despite the fact that Brazil has a strong oral and visual-oriented culture and that 22% of the population is illiterate. One should be careful, nevertheless, when analysing the lack of audio visual materials in Brazil if compared to stocks in the developed world, because publishing houses in Brazil which release books in other media format, i.e. cassette, CD-ROMs, etc., is still incipient. In terms of local data collection, most public libraries collect local newspapers, which may well be one of the only sources of local/regional data published regularly in a developing country like Brazil.

Library activities and promotional devices are also geared towards the literate elite and middle classes. None of the libraries surveyed could be described as popular libraries according to Flusser (1980). The libraries surveyed, nevertheless, are supposed to be the oldest, most pro-active and resourceful Brazilian public libraries according to the World

It is also clear that public libraries in Brazil cannot count on the infrastructure taken for granted in developed countries involving co-operative cataloguing co-operatives, joint acquisition of resources across a local authority and ongoing information exchanges. Brazilian public libraries seem to work very much in isolation. For example, cataloguing is done in-house in most libraries. In a continental country like Brazil, public libraries should co-operate and interact more, despite distances and regional differences. Nevertheless, there is the embryo of a more co-operative public library infrastructure at policy-making and organisational level with the National Public Library System. The NPLS has been in operation for more than two decades, and with Brazil's return to democracy now has the chance to become more outspoken.

b. Automation:

Automation is also an isolated phenomenon in Brazilian public libraries. Most enterprising libraries have started automating their services, making use of personal computers working on a stand-alone basis. Uses of automation are still incipient, with emphasis on housekeeping procedures and cataloguing of rare collections.

From this brief overview, it seems that automation is used as a tool to perform well-established library operations only. No community-related initiative was mentioned when public libraries with computers were queried on their future plans for services. In developed countries, on the other hand, where the awareness of community-related services seemed to coincide with public library access to information technology, computerisation seem to have involved a wider range of public library activities. De Smet (1994) made an observation worth quoting in full on the computerisation of community information services:

'Computerised documentary databases, if correctly implemented, present a straight self-service model of information, following the "information model" as the communication scheme in which an overwhelming amount of diversified data is supplied by an otherwise rather non-interfering supplier (sender) to the users: to this end, the tools to select the information and steer the communication process are put at the users' disposal according to an explicit "availability philosophy" (the warehouse model). This contrasts with the classical oral (sender-oriented) communication in community information, but complies perfectly with the model of the active, "well-informed citizen" (155-156p).

It can be argued that public library automation may be a lesser priority in a developing country like Brazil mainly due to high illiteracy levels existing in the country (22%). Although this is a valid argument, we are already witnessing the start of public library automation in the country, and as such it should be examined whether public libraries are using it as a tool to broaden the range of existing services. The use of public library automation in a developing country like Brazil should not be envisaged only for traditional purposes only, but to enhance

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the range of services offered to the community. Computers in this context should not be used just for the repetitive jobs, but to plan and do new ones, to rethink ways of dealing with existing resources and reformat them so that more users can have access to more information.

Moreover, seven of the eight public libraries that presently have computers in the premises are heads of their regional public library systems. These libraries are likely to set up trends and standards to be followed by minor libraries under their jurisdiction and other major public libraries throughout the country as well.

The use of automation in this project is therefore intended to demonstrate an application not yet dealt with by Brazilian public libraries that has the potential to serve and inform local communities. Although the prototype itself may not be of use for the 22% of Brazilian population who cannot read, or those who live in very poor and remote communities, it may be of some usefulness for the remaining 78% of Brazilian population who can read and are starting to feel the need for information to live in post-dictatorship Brazil. Moreover, the prototype can be a tool for the professional to organise, access, retrieve and disseminate community-related data. An informed community-related information officer is in a much more privileged position to reach out for the information poor and create the mechanisms to ensure that disadvantaged will trust the public library and the community-related information to help them with fundamental information needs.

Finally, it must be emphasised that automation can liberate enterprising librarians to develop and deliver better services to the less privileged in the community. This was a fact in developed countries. It is our hope that Brazilian professionals follow the example of their more privileged peers in developed countries..

c. Community Information and local studies supply:

Community information and local studies services are still to be fully developed in all aspects in Brazilian public libraries. Nevertheless, findings demonstrated that there is a growing awareness of the need for such services, because ten libraries out of 24 returns already offer some sort of community-related information service, and in five instances it was considered part of reference. In terms of coverage, only three libraries quoted they offer the limited range of topics suggested in the questionnaire. Indeed, it was even more alarming to note that information on jobs was provided by only three libraries (in a country with a large young population to be trained) and that data on legal information was only provided by four libraries. Lack of legal information can be attributed to years of dictatorship and limited individual rights. Nevertheless, the need for data on rights and survival information is indeed on the increase in Brazil due to changes in the Constitution and the country's return to

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democracy. Thus, questionnaire findings encouraged the present project to proceed in the direction to develop an experimental model for the organisation, access and retrieval of community information that involved at least jobs, legal and health-related information, as well as a local studies application for Brazilian public libraries;

Considering the fact that existing sources of community information data used by Brazilian public libraries consisted of the libraries' own files organised in folders, the basis for the prototype design could be files of community information and local studies concerns or areas of interest. This framework could reflect current practices of storing community information in folders by subject matter defined by public librarians based on their perceptions of users' needs. Nevertheless, prototype specifications should go beyond the current practice to inform and orient users on fundamental community-related needs in order to encourage them to take action. The alternative envisaged for the prototype design was a dual reference/referral framework, which would refer users to existing wider resources in the collection to back up a community-related information concern and also refer to sources of help outside the public library environment (organisations, addresses and contacts). This way a systematic framework for community-related information supply could be suggested, defined by public librarians and taking advantage of existing wider resources available, as well as contacts in the local community.

This framework is introduced in the following chapter, and it was conceived based on survey findings introduced above.

CHAPTER 6

PLANNING FOR THE PROTOTYPE DESIGN

6.1 INTRODUCTION

This chapter marks the planning to model-building transition. Thus, it focuses on the analytical and decision-making framework which lays the foundation for the detailed prototype description.

Firstly, a literature review is presented on users studies and community-oriented information services in public libraries in the UK, as well as the use of prototyping for the design of information retrieval systems more generally.

Secondly, the design of an Automated Library and Community-Related Information System (ALIS) prototype is proposed to encourage the organisation, access and retrieval of community-related information in Brazilian public libraries. This experimental model is conceived within a reference/referral framework aimed at encouraging the debate on conceptual, analytical and design issues implicit in the system design. The rationale underlining these choices and prototype objectives are introduced and justified.

Thirdly, overall system specifications are introduced, including software and hardware requirements, as well as editing and retrieval minimum features.

Fourthly, UNESCO's Micro CDS/ISIS is introduced. CDS/Isis, or Micro-Isis, is the software upon which ALIS exploratory prototype is built. Thus, the software's historical development, general features and suitability for the present project are presented and discussed.

Finally, justifications of the choices made for the model proposed are summarised.

6.2 USER REQUIREMENTS AND COMMUNITY-ORIENTED SERVICES: A REVIEW

User studies aim to inform how a library can best determine the needs of the users and potential users of that library. In Britain, the identification of users' requirements have increasingly been used as a foundation for the creation and evaluation of information services. Within this context, the specialist groups for Community Information and Local Studies of the Library Association should be mentioned, because they have provided the basis for, as well as influenced the majority of community-oriented initiatives in the UK. These User Groups have also systematically recommended that services should be geared and monitored to meet local users' needs.

The first studies geared to the identification of users' requirements in public libraries for community-oriented purposes started under the wider denomination of community profiles (Bunch, 1984), (Beal, 1984). Community profiles were built based on statistical, socio-economic data, local issues and the residents' views on information that affected their lives. One of the first projects that profiled local communities carried out by public libraries which had impact on community information was the Hillingdon Project (Totterdell and Bird, 1976). Local users' requirements were found to include local services and organisations, business information, sources of help and advice and local events. As a follow-up of this work, in 1984, Hillingdon libraries, in co-operation with GEAC, made available a Local Information module integrated to its library automation system, containing, in addition to the previously identified areas, council information, accommodation, recreation, news, local events, news and requests from local charity groups (Duncan and Westlake, 1987).

CINDEX, the influential community information system implemented also on GEAC and designed by the librarians of the London Borough of Camden, defined their users' requirements in terms of a directory of local and non local organisations, sources of help, adult education courses, and, in addition, has it developed two modules for school topics covering the needs of local school children (Hayes, 1992).

Other community-orientated user studies have focused on the information needs of rural communities. Three projects that looked at the users' requirements of rural areas and which received funds from the British Library Research and Development Department (BLRDD) were carried out in the county of Devon, UK. (Dover, 1985). The initial project concluded that users' needs could be met more efficiently if public libraries co-operated with other local rural agencies. This point was incorporated to the second and largest project on information for rural communities sponsored by the BLRRD to date, which centred on the market town of South Molton and Honiton in Devon. The project involved the study of local needs and co-operation with local agencies, with the public library taking the lead role. Databases were

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created for topics identified as important to these communities, such as housing, industry, commerce, transport and education. These databases were available on micro-computers with touch-sensitive screens, and initial results showed a good use of these facilities. The third successful project on community information for users in rural communities in Britain funded by the BLRRD was the PIRATE (Public Information in Rural Areas Technology Experiment) project, which linked reference libraries in Exeter and Plymouth in a pioneering action research approach to community information supply.

In the last few years user studies regarding rights and fundamental information needs in the UK have been undertaken by agencies such as the National Association of Citizens' Advice Bureaux (NACAB), the National Consumer Council, local authorities and advice-giving agencies in the specialist voluntary sector. Moore, Steele and Boswell (1994), who carried out a study to improve the provision of information for the disabled in Britain, states that national information providers have a range of different user groups, and tend to provide advice, whereas local information providers deal with specific enquires that require local knowledge and understanding of local issues.

This is a positive development for public libraries, because national information providers do make available their users' studies to all. Therefore, by co-operating with such institutions public libraries can access this data and design their community-oriented services to support national organisations and/or cover areas not served elsewhere. Public libraries are not any longer the only institutions to carry out the identification of users' needs in the community, as they were in the past.

Coleman (1992) justifies this fact by stating that presently in the UK public libraries are more concerned with providing services based on the collection, organisation and dissemination of resources than with undertaking a more broadly based community development role. This is only possible because public libraries can presently share the responsibility for identifying users' needs and co-operate in the provision of services with local institutions instead of being the sole provider of such data, as they were in the past.

Likewise, an area of user studies for community-oriented information services in public libraries which has experienced growth and will continue to do so in the coming future regards special community groups. This involves user studies of sectors in the community that have been either ignored or under-represented, thus indicating clearly that there is a changing user base for public library users in Britain in the years to come. For example, demographic studies have shown that in the London Borough of Newham, the percentage of ethnic minority groups have increased to more than 30% of the population (Morris, 1992). The challenge for public librarians is to cater for the specific information needs these groups

may have in terms of fundamental rights, and at the same time preserve their cultural identity.

Finally, another area of user studies that is becoming more relevant relates to the ageing population in the UK. (Morris, 1992). As the age base of the population tends to grow in Britain, more studies will have to be undertaken and resources provided to cater for the leisure and welfare needs of this population.

Summing up, on the basis of present findings, users' requirements for community information supply in British public libraries show that there is a need for files containing at least a directory of local organisations and sources of help. Other files such as local education opportunities were also identified. Bearing this in mind, the present prototype should include at least files on wider topics of community-related information concern for public library users in Brazil, and include areas such as health, the law, jobs/education opportunities and local sources of help. Thus, this section supplied the basis for the identification of the minimum content for the prototype files introduced in sections 6.4 - Rationale for the prototype design, and 6.5 - Prototype design objectives, in order to attempt to respond to some specific requirements of the context affecting Brazilian public libraries..

6.3 PROTOTYPING FOR INFORMATION RETRIEVAL: A REVIEW

Current references in the literature on the use of prototyping for information retrieval were scarce and only one included a community information application in public libraries.# either

Haywood (1990) described that an interactive video consultancy, Soft Option, had launched a cost-effective scheme to help companies, museums and libraries to evaluate the potential of introducing interactive video by setting up a project prototyping service. For a fixed fee Soft Option would spend a week with the company to research, develop and evaluate the prospects of interactive technology for the client whether in training, information, point of sale or archival applications. The scheme was successful for the Engineering Industry Training Board, which prototyped one project and later saved half of its production in costs on a full scale interactive video disc. Prototyping in the interactive video was considered an attractive development methodology, because by working through the process and compiling a 'demonstrator' disc a client obtained tangible evidence of the results at limited cost rather than having to rely on pure theory and storyboards.

Jackson (1991) analysed the development of a prototype computer-based system designed to provide technical and commercial information in a corporate scientific environment. The prototype provided data on collection, selection, analysis and dissemination of technical and commercial information to users on a distributed computer network. Although the prototype

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had been designed for scientists, the concept could be equally applied for industry and commerce. The information management environment managed to facilitated access to a wide range of bibliographic and textual databases, offered automated documents ordering and facilities for interactive handling of document surrogates. Results demonstrated that the prototype system preserved the investment in data collection by promoting information sharing and re-use via inter-personal transfer and personal database preparation. The next stage of development would involve the consolidation of system functionality by taking into account the lessons learned in the implementation and operation of the designed prototype.

Harman et al. (1991) analysed a prototype distributed information retrieval system built using a distributed architecture and using statistical ranking for retrieval. Statistical ranking was chosen because it seemed to produce better results than Boolean operators for the casual user. Data came from more than 40 different sources, i.e. manuals, letters, reports, etc., and types of structured and unstructured texts. The distributed architecture was shown to be a feasible alternative to centralised or CD-ROM information retrieval, and user testing of search ranking methodology showed both widespread user enthusiasm for this retrieval technique and very fast response times.

Young (1994) described the use of prototyping with CD-ROMs for in-house information handling, data exchange and publication. The article is theoretical and directed to all sorts of organisations. It concludes that CD-ROM technology is versatile for information handling applications, easy to implement by organisations and cost-effective to obtain a complete system for in-house disc creation, prototyping and low-volume production.

Finally, De Smet (1994) reported on the use of UNESCO's Computerised Documentation System/Integrated Set of Information Systems, known as CDS/ISIS or Micro-Isis, to serve as a development environment for a public access database of community information records in Belgium, called GIDS. CDS/ISIS was chosen for its affordability for small Flemish public libraries, storage and retrieval of different kinds of data and structure, indexing and retrieval power, a public access search interface and possibility of evaluation based on more than occasional and subjective data. The pilot database had 700-1,000 records on topics such as community services, courses and education programmes, local organisations and clubs, relevant persons (e.g. politicians), activities and calendar, law, regulations and instructions on local items. System evaluation indicated high appreciation of the system. An end user-oriented retrieval system could be developed on a very low budget, the software handled the disparate information of community services, as well as proved capable of presenting this information in a user-friendly way. The major drawback of Micro-Isis was the absence of a user-friendly search interface and of graphical presentation (e.g. to run in a Windows-like environment). De Smet recommended the use of the software, stating that GIDS would be

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available shortly in two versions. The first would comprise an online catalogue that could be adapted as a front-end for Micro-Isis databases, and a full GIDS system for community information, and the prices for those systems would be in the region of US\$ 100-200. This is an important reference, for Micro-Isis is precisely the software upon which the prototype in this thesis is built, and its choice was based on the same criteria that oriented De Smet to choose it for GIDS community information system. .

It must be added, nevertheless, that although prototyping is a relatively rare system development approach in public libraries, many public librarians in developed countries have co-operated in many cases with producers of library automation packages in the creation of their community information systems. Cases to illustrate success stories are GEAC in the London boroughs of Camden and Hillingdon, as described in Chapter 2.

Despite the lack of references on prototyping for the design of information systems in, by and for public libraries, the use this research tool should be encouraged not only because it associates theory to practical hands-on experiences, but also because it takes into consideration organisational, resources and needs of the system's users (the professionals and general end user). Developing countries with low tradition and experience in library automation would clearly benefit from prototyping approaches because library professionals would be able to learn on-the-job, as well as to create and define system specifications for their work environments. Furthermore, they would be able to create models that reflected their vision of end users' needs and test these models in their communities. Taking into consideration these aspects, the present project is a contribution to this field of LIS studies especially directed to the Brazilian context.

6.4 RATIONALE FOR THE PROTOTYPE DESIGN

The rationale for the prototype design consists of the guiding principles which orient the experimental model proposed. Basically, ALIS prototype is a set of modules for the organisation, access and retrieval of community-related information, designed within a reference/referral conceptual framework. The prototype modules in this framework are designed to:

1. *Identify and present* community-related information entries as *concerns* and their corresponding *definition* so that libraries can create their own community-related data by making them simple, informative and direct for users;
2. *Refer the user to other modules in the prototype and/or to existing wider library resources on the community-related entry or concern* to encourage the user to explore the range of existing resources, as well as to find out more data on their queries within the library environment;
3. *Refer the user to community-related information resources external to the library* to aid

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users solve their community-related information needs where specialised help or advice is needed.

Taking therefore into account the conceptual requirements introduced above, three guiding principles orient ALIS design. These are respectively *information repackaging*, a *reference principle* and a *referral principle*. In what follows, these three guiding principles are analysed in detail.

6.4.1 INFORMATION REPACKAGING

Information repackaging in the present context means the naming, extraction and abstracting of core community-related concerns or entries and their corresponding definition for the areas chosen for the scope of this project, i.e. health, jobs, law, local organisations.

Data for entries and definitions is taken from authoritative and copyright-cleared sources existing in and/or organised by the library. Data is then made simpler, clearer and yet terminologically accurate. Therefore, information repackaging of community-related information concerns in the present prototype means the creation and definition of community-related entries by libraries based on their existing resources and copyright-cleared material available to them.

Some criteria were established for the creation of an entry and its corresponding definition in ALIS. Firstly, entries must name simply, directly and accurately community-related information concerns preferably by a single term or expression, i.e. vaccination or family planning as health concerns, adoption or maternity leave for legal matters, the name of a site or borough for the local studies entries, acronym and name for a local organisation;

Secondly, definitions should be constructed with simple, precise and everyday language to allow for immediate identification, content accuracy and understanding of the entry/concern. These criteria allow flexibility and ease for libraries to create, define and implement their own community-related data when need be based on available resources. Moreover, they enable the creation of entries and definitions assumed to be rapidly recognised or understood by end users due to the fact that they reflect everyday concerns. Example: a definition for AIDS explains what it is in brief, simple and accurate terms, with data on prevention and a remark on the need to get informed on this grave disease of our times.

The structure of the repackaged information is conceived as an open dictionary or an A-Z directory-like structure made of a) alphabetical listings and definitions for health, legal and job/education concerns; b) names and purpose of organisations and institutions, and c) alphabetical listings of names and highlights/data of borough aspects for the local studies

module, i.e. sights, events, etc.

Information repackaging is justified to equip public libraries with a mechanism that enable them to create, define and customise community-related databases profiling them according to their users' needs and availability of resources. By extracting and abstracting relevant community-related information and giving it the format of customised files public libraries in Brazil may attempt to overcome with their own resources the barrier represented by the lack local sources of data so common in developing countries.

Also, information repackaging as suggested in the present prototype solves the problem of copyright infringements, because libraries will not reproduce community-related data as found in their original sources, unless these sources are of public domain and copyright-free. In fact, it is recommended that core data for entry and definitions should be taken out of public domain, copyright-cleared sources existing in the library or from collection-building especially to this end.

As an example, for health, law, jobs/education, i.e. areas chosen for this project, copyright-free sources could be obtained locally via the ministries and state secretaries for health, social security, employment and Justice.

6.4.2 THE REFERENCE FUNCTION

The *reference function* explains the community-related information concern functioning as a primary reference tool to users, as well as refer them to relevant resources existing in the library, e.g. the collection, an in-house activity, display, or to another database in the system. This may be a tool for improved community-related information supply in public libraries of a developing country like Brazil, where relevant data may be obtained via a contact or word of mouth in the absence of formal channels and sources. Explicit in this strategy is the rationale that whatever the community-related concern may be, the library resources should be as much as possible the first readily available source of data to users. Implicit is the commitment to the organisation, maintenance and management of existing and prospective public library resources to support community-related services.

Referred-to resources, nevertheless, should fit in the following criteria a) be the best layman resource available; b) the most up-to-date or latest acquisition on the community-related concern, and/or c) the resource of greatest relevance or more closely related to supplement or complete a community-related information query.

Referring the user to a relevant library display or activity is also a feature of the second reference function to highlight a particular library resource. This strategy can be of potential

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usefulness to community-related action, such as in the case of public campaigns, such as immunisation for under five-year olds, an exhibit on a local personality organised by the library, etc.

Finally, the third reference function suggested in ALIS to direct the user to relevant community-related modules shows how the modules interrelate in content. Thus, a referred-to organisation in a health or legal file introduced by its name, address and phone number is additionally described by its purpose, contact, opening hours, etc. in the local organisations file. All the user has to do then is to follow the menu instructions and inspect another module for more information. More importantly, the catalogue, or the traditional gateway to library resources, is integrated with the community-related information modules, for all referred-to resources to the collection in the community-related files are contained and fully referenced in the library catalogue.

Summing up, the prototype design has a explicit reference function working at primary level by defining itself and at a secondary level by referring to resources existing in the library to complement a community-related information need. This may be a material in the collection or even data contained in another system module the user is encouraged to explore. In this sense, all community-related files are interrelated in content. The open dictionary structure of the files and the field called '*In our Library:*' designed to refer the user to the wider library resources allow for such flexibility.

By proposing this threefold reference function, a more dynamic use of the library's own resources is proposed. This may well be a fundamental issue for public libraries in developing countries, where the scarce available resources should be used to the fullest.

6.4.3 THE REFERRAL FUNCTION

As defined by Finer (1979), the referral function within library and information services is generally characterised by the *location* of information sources (experts, specialised institutions, other libraries), *contact* with sources of information and *supply* of information about access to sources of information.

In the present prototype design, the referral function is defined as the link leading users to appropriate sources of information external to the library environment in order to enable them to find out who can better be of assistance to fulfil an information need. The referral function in AILS aims at helping the user to locate external information sources (experts, specialised institutions, other libraries), contact with external sources of information and to supply information on access to external sources of sought-after data.

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In this aspect, the referral function as presented in AILS does not innovate in terms of community-related information supply, because many community information and local studies services in public libraries include directories of local organisations and services of local interest. This practice is standard to the extent that traditional library automation packages such as GEC and DYING include already a facility for the making of local directories.

The inclusion of a referral function to external local information suppliers is nevertheless fundamental to raise issues of identification, organisation and maintenance of community-related resource files by Brazilian public libraries. Therefore, the rationale for the referral principle in this project is justified by the fact that it constitutes a tool to aid users locate sources of help with basic information needs preferably in their communities and to foster the in-house organisation and maintenance of local resources files so lacking in a developing country like Brazil.

6.4.4 THE REFERENCE/REFERRAL FRAMEWORK AND THE USER

ALIS reference/referral framework is conceived for the Brazilian public library professional and the general public as well.

For the Brazilian public library professional, the reference/referral framework intends 1) to provide an automated tool for the in-house creation of community-related data based on the professionals' perceptions of their community's need; 2) to encourages the systematic organisation of community-related data; 3) to promote the wider use of existing library resources, and 4) to foster co-operation with suppliers of community-related information external to the library.

For the general public, on the other hand, the reference/referral framework is conceived as i) a concise and up-to-date primary source of community-related data on everyday needs and fundamental concerns; ii) a gateway for the general user to explore wider library resources to back up a community-related information need, and iii) a directory of external aid agencies and contacts capable of helping with community-related information needs.

Due to local constraints in Brazil which could not be overridden, prototype evaluation carried out in Brazilian public libraries focused on the professionals' acceptability of the model and the reference/referral framework. Thus, although initially the prototype was aimed as a search tool both for professionals and end users alike in Brazilian public libraries, it could not be proved whether Brazilian end users would consider the prototype user-friendly and approve of it as a primary source of community-related data on everyday needs, a gateway to explore wider library resources and a useful source of community-oriented contacts.

6.5 PROTOTYPE DESIGN OBJECTIVES

Specific prototype design objectives are described below, as they are the foundation upon which this experimental model is laid out:

1. Community-related information entries and definitions should describe as much as possible in a simple, direct and accurate way community-related concerns. This objective is achieved via the open dictionary framework or A-Z listings of community-related entries and their definitions, which name and define community-related information concerns in clear, and unambiguous terms for understanding and precision. The self-defining character of entries and definitions, i.e. the information repackaging device, is fundamental to allow flexibility for the professionals to define customised community-related information files, as well as to convey user-friendliness from the end user standpoint.
2. Existing resources in the library collection should be identified to back up community-related information concern. These existing resources should fulfil the criteria of being a) the best layman work available in the collection; b) the most complete resource to solve a community-related information concern, and c) the latest library acquisition or most up-to-date resource available;
3. Sources of external community-related providers should be identified as referrals to users;
4. All modules in the system proposed should be integrated within the reference/referral conceptual and structural framework envisaged for this prototype. This is achieved by the following: all organisations referred-to across the modules are contained in one specific file designed for institutions/organisations, and the field *In our library* allows for references to be made to other community-related information files in the prototype. For example, an entry on a health concern such as family planning can refer the user to a similar and/or related entry of the legal database, and all the user has to do is follow the menu instructions to go from one database to another. Also, the field *In our Library* refers the user to the wider library collection, which may include non traditional sources, such as a poster in the library, an audio visual material, etc.

Summing up, the prototype design objectives refer to the creation of community-related information data by libraries, the systematic collection of resources for community-related information supply and how data interrelate. This may lay a basis for public libraries in Brazil to organise their own community-oriented resources based on their perception of their users' needs. This approach encourages more autonomy for public libraries and less dependence on external sources of information which may be too expensive or impossible to access.

6.6 PROTOTYPE SPECIFICATIONS

6.6.1 SOFTWARE REQUIREMENTS

Selection criteria for the software were as follows:

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1. *Reliability*: a software is said to be reliable when it is correct and robust, This means that for any valid input, i.e. command or data, the right output is produced. Also, in the case of an invalid input or failure in the hardware, the software is able to inform the user of the problem and suggest alternative solutions;
2. *Testability*: the software should be able to be tested simply and directly according to its specifications in order to be proved correct for the set tested and routines it is intended to be used for;
3. *Usability*: the software must be practical and capable to achieve the desirable objectives and be easy to use by following its standard instructions for expert and non-expert users. This is an important requirement for this designer, who wanted a software that could be used by public libraries with little experience in automation. The software chosen should therefore possess clearly defined instructions which could be easily followed by those just starting with library automation;
4. *Efficiency*: the software should be efficient in carrying out the instructions given and respond with due speed and accuracy;
5. *Portability*: the software should be able to run not only on different manufacturers' personal computer hardwares, but also on different types of computers;
6. *Maintainability*: the software should allow for modifications to correct bugs and improve performance. It should therefore have a simple and clear structure, accessible documentation and specifications to be readily understood not only by its designer.

6.6.2 EDITING REQUIREMENTS

The software used for the prototype design should ensure the following overall editing requirements: 1) online entry, updating, editing and searching; 2) ease of amendments to data in all records when need be; 3) free text searching; 4) the software should have a retrieval module independent from other system maintenance facilities to avoid undue user interference for editing, updating and amending data by unauthorised personnel; 5) the software should allow for the creation of customised entry menus, or user interfaces when need be; 6) the software should allow for the creation of printouts in several standard formats, and 7) the software should allow printing capabilities in a series of pre-defined formats when necessary.

6.6.3 RETRIEVAL FEATURES

The software should ensure database searching with the following features:

- 1). use of Boolean operators (AND,OR,NOT, etc.); 2) term truncation; 3) proximity searching;
- 4) specification of field(s) to which the search should be confined; 5) searching of non-indexed fields; 6) searching of one or more strings within terms; 7) browsing the system dictionary; 8) display the results of searches in a suitable form, on the screen, in print, when need be; 9) the software should be able to provide the results of the search performed and

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specify the number of items found with the respective references; and 10) the software should also be able to provide help messages/facilities whenever necessary.

6.6.4 SPECIFIC SOFTWARE REQUIREMENTS

Specific software requirements for this project were the following:

1. It should be recognised by a leading LIS institution in the country;
2. It should be cost-effective in order to be affordable by chronically under-resourced Brazilian public libraries;
3. It was essential to find a software that could be used in Portuguese and English language, because this project had to be simultaneously bilingual to be carried out in Britain and shown to Brazilian users in the evaluation stage.

The software choice which satisfied all these criteria was *UNESCO's CDS/ISIS, or Micro-Isis*.

6.6.5 CDS/ISIS vs. SHAREWARE AND OTHER FREE LIBRARY PACKAGES

Freeware and shareware are softwares which, unlike commercially produced packages, users are encouraged to copy and share, only paying for the corresponding fee if satisfied with the product. In case a user discards a freeware after trying it out, there is no further obligation or undue expenditure. Mainly in the USA, freeware/shareware authors market their products to tens of thousands of consumers via local and national Bulletin Board Services (BBS's). Thus, for personal computer users who have modems, freewares/sharewares are a very economical option (McIntosh, 1989).

The use of freeware/shareware packages could not be considered in the present project for the following reasons:

1. Software design is not so developed or economically self-sufficient in Brazil to enable designers to market their products as shareware/freeware without relying on any sort of payment or funding;
2. The existence of nationwide Bulletin Board Services in Brazil and real time online services is still incipient in the country. Indeed, until 1990 the National Politics for Informatics reserved access to such services to specific gateways, in general government and state-owned research institutions (Figueiredo, 1987). Such services provided by foreign suppliers were not encouraged in Brazil, as they had to be paid in hard currencies, which made these services out of reach for most Brazilians.
3. Consequently, most personal computers in Brazil tend to be stand-alone. When they are part of networks, these are in general linked to sectors such as banking or state-owned systems, i.e. social security and taxation;
4. Most currently available freeware/shareware would have to be translated from English into Portuguese before they could be used by public libraries.

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In terms of other free library packages available for developing countries, the literature review also identified the library package MicroDis, produced by the United States Agency for International Development (US AID) and available free of charge to agencies involved in the field of assistance to developing countries (Hopkinson, 1987). MicroDis requires no setting up, unlike MicroIsis, and the user is given the option of entering data in the modules of acquisition, catalog and circulation. For the purposes of the present research, MicroDis software could not be used, because it does not allow flexibility for the design of customised databases and modules to suit community-related information requirements defined by public libraries, as suggested in this project..

Therefore, the choice of CDS/Isis is maintained for the present project even if compared with currently available freeware/shareware and other library packages.

6.6.6 HARDWARE REQUIREMENTS

Given the choice of software, minimum hardware requirements for this prototype are an IBM Personal Computer XT/AT or compatible equipment, with 512K RAM memory (640K recommended), one floppy disc unit, 1 hard disc, 1 (monochrome or colour) screen, together with a printer (optional).

6.7 MICRO-ISIS

6.7.1 HISTORICAL DEVELOPMENT

The historical development of Micro Computerised Document System/Integrated Set of Information Systems - CDS/ISIS, or Micro-Isis, as it is generally known, can be traced to the years 1969-1971. At that time UNESCO started developing its Computerised Documentation System (CDS) to achieve the systematic bibliographic control of its own documents and publications, to provide information to Member States about the programme of UNESCO as reflected in its documentation and to develop information and documentation software for use within UNESCO Secretariat, in other parts of the United Nations system and in Member States.

When UNESCO decided in 1975 to replace its mainframe computer with an IBM model, it was faced with the problem of converting the software package it had so that it could run in an IBM equipment. Rather than rewriting the existing programmes, it was decided to adopt an earlier version of the Integrated Set of Information Systems (ISIS software) which had been developed by the International Labour Organisation (ILO) in the late 1960s. ISIS at that point was being increasingly used by many institutions in both developed and developing countries.

It soon became clear that a major re-design of ISIS was required, because it lacked many of

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the features already available in UNESCO's CDS system. Development work on ISIS began at UNESCO in 1975 and the first version of the system was operational about the end of that year under the name of CDS/ISIS (Pobukovsky, 1985).

UNESCO's commitment to Micro-Isis development made of it a reliable operational software worldwide. Interest within the agency has been matched by the increasing number of requests to use the software from other United Nations institutions and Member States.

Thus, from 1977 on UNESCO started developing a programme to distribute Micro-Isis free of charge to qualified non-profit organisations which have the required hardware and operational system to run the software. Micro-Isis is thus developed and distributed worldwide within the General Information Programme. After the signature of a formal transfer agreement with UNESCO or its representing agency, a three weeks' training proceeds to enable the correct use of the package. After the training, installation should be autonomous, and there is in general no need for further direct assistance. Users are kept informed of system developments through circular letters and technical updates covering special topics, guidelines and procedures (Pobukovsky, 1985).

In Brazil, the software is distributed by IBICT- Instituto Brasileiro de Informacoes em Ciencia e Tecnologia (The Brazilian Institute for Scientific and Technical Information) under agreement with UNESCO. IBICT is one of the leading institutions related to library and information matters in Brazil, and is actively engaged in promoting the software for library automation nationwide.

IBICT's aim to bring Micro-Isis to Brazil was twofold: 1) to make available to Brazilian users a tool which could foster data processing and exchange throughout the country, and 2) actively foster implementation of Micro-Isis software so that it could serve better Brazilian users. IBICT's researchers have thus prepared the Portuguese version of Micro-Isis menus implementing on the module ISISGLC - Isis Global Change.

Micro-Isis was introduced in 1986 in Brazil and already in 1989 more than two hundred users had contracts signed with IBICT, who also sponsored the First National Meeting of Micro-Isis users in Brasilia, October 23rd-24th 1989 (IBICT, Informe Micro-Isis, October 1989).

6.7.2 GENERAL FEATURES

Micro-Isis is a software package written in Pascal programming language designed to store, retrieve, display and printout information. Its functionality lies in the fact that it is an application generator that the user can customise to a given task by specifying the structure and content of records, the display and print formats, as well as indexing and searching

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methods. In short, Micro-Isis is a user-defined editing and retrieval package with database management features which was specifically designed for library applications. Thus, it is assumed to be capable to perform the main functions required for the scope of the present project, which is namely the establishment of a framework for the organisation, access and retrieval of community-related information for Brazilian public libraries.

The minimum requirements for running Micro-Isis are an IBM-PC/XT/A or compatible equipment, with 512 RAM memory (640 recommended), 1 floppy disc unit, 1 hard disc, 1 monochrome or colour screen and one printer (optional).

The latest version of the software released in 1992, Micro-Isis version 3.0 and the one used in this project, consists of one program composed of more or less independent modules which enable the following operations: 1) choice of an existing database; 2) choice of another menu language: the package comes with an English, French and Spanish menu choice. The Portuguese version of Micro-Isis menus is prepared by the IBICT in Brazil; 3) data searching in a database; 4) records sorting, printing and storage as a computer file; 5) creation and update of database index; 6) database reorganisation, data import and export in standard ISO format and database backups; 7) use of utility programs for functions such as composition and modification of menus; 8) creation of additional programs in Pascal according to ISO standards and incorporation of these programs into the system.

The following features also make the package very attractive for library applications:

a) maximum number of databases managed by one copy of Micro-Isis is unlimited; b) maximum number of records in a database is 16 millions, (maximum of 500Mbytes); c) maximum size of records is 8,000 characters; d) maximum number of fields in a record is 200, and all can be indexed and subfielded; e) maximum size of field is 8,000 characters; f) enables the efficient use of the memory space on disc, as it does not take a fixed amount of memory for each field in the record. g) version 3.0 provides full LAN (Local Area Network) support, i.e. simultaneous access to a given database by two or more users for searching and database definition (for more information, refer to the file *README*, System Disc #1, Micro-Isis version 3.0).

The system is menu-driven: the user is presented with different menus on the screen from which s/he can select the desired functions which will be either executed immediately or another menu will be displayed to ask for additional parameters.

6.7.3 DATABASE DEFINITION

Database definition with Micro-Isis follows four specific steps defined as:

1. Creation of a Field Definition Table (FDT) showing the content of data records. This table

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is set up using the Line Editor of Micro-Isis, and contains tag number, name, maximum length, repeatability and (optional) subfield identifier for each field of a Micro-Isis record;

2. Creation of a Data Entry Worksheet by using Micro-Isis Worksheet Editor. As many worksheets as desired can be created for each database;
3. Definition of the display/print format: a default display/print format must be specified for each database. This is done via Micro-Isis Formatting Language, which should be carefully studied;
4. Creation of the Field Select Table (FST) which control the extraction terms from the records for the creation of the inverted file for further retrieval.

These are the basic steps for database definition. Any part of the definition can be modified or expanded later, but in so proceeding attention should be paid to the preservation of consistency of data.

6.7.4 DATA ENTRY AND INDEXING

Entering data and creating indexes are fundamental features to assess information management systems.

The main concern for ALIS was to find a software that allowed flexibility for the creation of record formats, entering and editing data, as well as ease for data validation and corrections whenever necessary. Micro-Isis was found to conform with these requirements, because it allows the following easily and effectively: 1) definition of more than one data entry format, thus allowing for the definition of individual data entry worksheets when need be. This would allow flexibility for public libraries to define and change different data entry worksheets according to their own needs; 2) definition/Deletion of default values for fields; 3) to enter and edit new records; 4) to edit and delete existing records; 5) to restore or create logically deleted records (deletion is always logical at entry-time, records are physically deleted when the database is re-organised);

Entering and editing fields are controlled by the Field Editor not only in the data entry phase, but throughout the system.

Flexibility for indexing constituted an important issue in ALIS, because indexing terms should reflect the user's own language, and thus allow for changes/replacements whenever necessary. One of the main characteristics of community-related information systems is currency, therefore needing constant updates. Micro-Isis has five indexing techniques which can be easily accessed and executed for corrections. These are the following:

- a. *Indexing technique 0* - builds an element for each *line* extracted by the format. This

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technique is normally used to index whole fields or subfields. Note that Micro-Isis will build elements from lines and not from fields. This is because the software looks upon the output of the format as a string of characters where fields are no longer identifiable. When using this technique, data extraction format should output one line for each element to be indexed;

b. *Indexing technique 1* - builds an element for each *subfield or line* extracted by the format. Micro-Isis will search the output of the format for subfield delimiter codes, so one must specify the correct mode, which in this case is proof mode, which is also the default mode, as this is the only mode that preserves subfield delimiter codes on output. This technique is in fact a shortcut to using indexing technique 0;

c. *Indexing technique 2* - builds an element for each term or phrase enclosed in triangular brackets (<...>). Any text outside the brackets is not indexed;

d. *Indexing technique 3* - does the same as indexing technique 2, except that terms or phrases are enclosed in slashes (/.../);

e. *Indexing technique 4* - builds an element from each word in the text extracted by the format. When using this technique, it is useful to define a stopwords file to prevent indexation of non relevant words;

After a section of data entry, the system can be instructed to extract and invert terms from the newly added records, creating an up-to-date inverted file for the next search section. Stop word lists can be built to filter out unwanted terms like conjunctions, articles and prepositions at this stage. Search terms which may be words or phrases are limited to 30 characters in length, that is, the inverted program will truncate those terms which are longer.

6.7.5 SEARCHING AND PRINTING

Searching the databases and printing results of searches are the most attractive services of Micro-Isis. To fully enjoy searching, nevertheless, a well-planned searching strategy may be desirable. Query formulation uses basically Boolean logic that is enriched by proximity operators, field qualification, truncation of search terms by using a truncation symbol, searching of non-indexed fields and searching for one or more strings within terms (which is a sequential and therefore a relatively slow process)

Query questions can be recalled and edited during the session and results can be stored for later printing. Hit records selected by a query question can be recalled for modifications using the data entry mode.

For specific printing purposes, display formats can be changed or edited temporarily. Inverted terms along with their occurrences in the databases can be listed in alphabetical order. Query hit records or intervals of the database can be printed in their original sequence or sorted to a maximum of 4 selected keys from the record fields. Multiple headings can be

generated for record fields, too. The number of columns, line width and other print parameters can be set on pre-defined system worksheets.

6.7.6 DISADVANTAGES OF MICRO-ISIS

Current less attractive features of Micro-Isis are the following:

1. The database definition sequence made of four stages (field definition table, definition of worksheet, display format and indexing techniques) requires careful follow-up of manual instructions, thus enough time should be allowed for grasping the technicalities of the software. The formatting language is complex, although it allows for many variations for data display on screen and in print;
2. No spelling checkers, requiring the user to type the correct spelling for search terms;
3. Lack of WIMPs (Windows, Icons, Mouse, Pull-down menus) common for present day fast microcomputers. User interface is still fully character-based only, and the screen is never used in a graphical way;
4. Being character-based only, Micro-Isis cannot store and display graphics such as photographs and drawings. An advantage, nevertheless, lies in the fact that Micro-Isis can be used with sufficient speed on a relatively old and slow PC with a character-based video monitor. These may be the machines available for many public libraries in a developing country like Brazil to start with;
5. Micro-Isis offers no possibility to inspect a thesaurus with reference to broader/narrower or related terms while entering or searching information. A small additional program has been developed for the creation of thesaurus to be added to Micro-Isis. Nevertheless, this separate program cannot yet be integrated with the input/editing function so far.

6.8 JUSTIFICATION OF SYSTEM'S CHOICE

The choices made for the development of the present prototype were justified by the following:

1. The prototype as a stand-alone micro-computer based application was considered to be the most suitable, feasible and economical alternative for Brazilian public libraries at present. Libraries which already had computers in the premises mentioned they had micro-computers (Chapter 5), therefore ALIS or an ALIS-like framework could be easily incorporated to these environments. Libraries which do not have computers would probably choose to buy a personal computer taking into consideration price, flexibility and market availability in the country. Brazil has an indigenous computer industry, and this means that equipment could be acquired in the country. Furthermore, the existence of a Brazilian computer industry means that public libraries could rely on suppliers for equipment maintenance and support throughout the country. To illustrate the strength of Brazilian computer industry, the Anuario Informatica Hoje 1989 (Annual Review of Informatics Today, published in 1989) reported on the performance of 200 enterprises in 21 fields of the computer market in the country;

Chapter 6 - Planning for the prototype design

The case for prototyping any alternative involving videotext/teletext system for community-related information provision, widespread in developed countries via Prestel, Oracle and CEEFAX in the UK and Minitel in France for example, had to be discarded, because Brazil lost the initial thrust to develop such infrastructure in previous decades due to development choices and economic problems (Robredo, 1989).

Also, the existing telecommunications infrastructure in Brazil is yet to be developed, especially in terms of mass information supply. Private and state-owned bulletin boards and online services are still to be developed, and this low development can be attributed to the tight control the National Politics for Informatics had over online services in the country (Figueiredo 1987). Basically, the National Politics for Informatics viewed access to online services as a matter of national security. Brazil should not encourage dependence on foreign information providers or spend hard-to-get strong currencies to contact these services unless via official gateways, which could be paid with the national currency. The National Politics of Informatics lost most of its enforcement powers in 1990, being transformed in an advisory body for issues involving informatics. Alternatives involving telecommunications and networks would be too far-fetched for Brazilian public libraries at present.

2. Applied prototyping with Micro-Isis, a renowned library package approved by a major Brazilian LIS institution and already in use in the country, was justified as a feasible and cost-effective alternative for the design, demonstration and simulation of a community-related information processing environment that could be presented to users in Brazil. Other shareware/freeware might not be available either in Portuguese language, impossible to obtain due to the lack of a public telecommunications infrastructure for online services in the country and due to scarcity of software design houses offering shareware/freeware products.

3. The reference/referral framework was justified because it attempted to offer alternatives for the systematic organisation of community-related information files by public librarians, it encouraged the use of wider library resources and offered a gateway for professionals and end users to contact sources of community-related information help outside the public library. The rationale was that perhaps by starting with the organisation of the locally generated resources to solve everyday needs, foster the exercise of citizenship and the retrieval of local data impossible to be obtained elsewhere, public libraries could attempt to relieve the lack of essential public information existing in Brazil.

The choice of system, described in detail in the next chapter, was therefore dictated by infrastructural, conceptual and design issues involved in tackling the identified problem of community-related information supply by Brazilian public libraries.

CHAPTER 7

ALIS PROTOTYPE - the databases, system use and maintenance

This chapter contains the description of ALIS (Automated Library and Community-Related Information Retrieval System) prototype made of six databases implemented on UNESCO's software Micro-Isis version 3.0.

Firstly, an overview of the system, the relationships between the modules designed and general database definition principles with Micro-Isis are presented. This lays the foundation for the detailed prototype specifications of each community-related database in the prototype.

Secondly, prototype specifications and database maps for each of the six community-related information modules (AZHEAL, AZJOBS, AZLAW, CITYOR, LOCAL and LIBRY) are presented.

Finally, issues regarding ALIS maintenance are raised, including data entry, master file maintenance, information retrieval services and user interfaces.

7.1 SYSTEM OVERVIEW

The Automated Library and Community-Related Information Retrieval System (ALIS) consists of six menu-driven modules or databases. They include the following:

1. A directory of local and non-local organisations and/or institutions capable of supplying community-related information, aid or help, **CITYOR**;
2. A database for health problems/concerns, **AZHEAL**;

3. A database for **job/careers/education** concerns, **AZJOBS**;
4. A database for **legal** concerns/problems, **AZLAW**;
5. A **local studies** application, **LOCAL**, and
6. **ALIS online public access catalogue**, **LIBRY**.

Access to the six community-related databases in the prototype is provided by choosing one of the one- key options displayed in the top/entry menus: the standard Micro-Isis top menu for library personnel, with a welcome message designed for ALIS, and a simplified version of Micro-Isis information retrieval services, or the general library user interface. These two top menus are illustrated in Figure 7.1-1 Standard Micro-Isis and ALIS top/entry menu (for the library staff/personnel) and in Figure 7.1-2 Top menu for the General Library User, i.e. the first general library user interface.

Thus, to access the databases when using the standard Micro-Isis/ALIS top menu for the library staff, for example, one chooses first one of the one-key options which grants access to the major services of data entry, information retrieval, sorting and printing, inverted file and master file maintenance, system utility services and advanced programming facilities. The system will prompt the user to enter the name of the database one wants to work with and present another menu of one-key options corresponding to the operations one wants to perform with the chosen database.

In the case of the simplified top menu or the general library user interface, access is granted to information retrieval services only also by choosing the one-key options for each specific database. The software demands the user to spell the database names correctly in the absence of spell-checkers, thus all community-related databases in ALIS were given mnemonic names to be easily remembered.

The one-key option **C** for **Change data base** (Micro-Isis spells the term database as two separate words) allows navigation from one database to another in both standard and information retrieval menu.

Finally, ALIS databases are made of records which contain data elements stored in variable length fields.

Figure 7.1-1 Standard Micro-Isis and ALIS top menu for the Library Staff

```

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Micro CDS/ISIS - Version 3.0
** WELCOME TO ALIS - OUR LIBRARY'S COMMUNITY-RELATED INFORMATION SYSTEM **

      DATA BASES AVAILABLE:
CITYOR * AZHEAL * AZJOBS * AZLAW * LIBRY * LOCAL

C - Change data base

      DATA BASE SERVICES:
E - ISISENT - Data entry services
S - ISISRET - Information retrieval services
P - ISISPRT - Sorting and printing services
I - ISISINV - Inverted file services
D - ISISDEF - Data base definition services
M - ISISXCH - Master file services
U - ISISUTL - System utility services
A - ISISPAS - Advanced programming services

X - Exit (to MSDOS)

?
```

Micro CDS/ISIS - (C)Copyright Unesco 1992

```

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Micro CDS/ISIS - Version 3.0
WELCOME TO ALIS
*** OUR AUTOMATED LIBRARY AND COMMUNITY-RELATED INFORMATION SYSTEM ***

ALIS has the following DATA BASES for YOU to SEARCH/USE/LOOK UP:
AZHEAL      - for HEALTH CONCERNS
AZJOBS      - for JOBS/CAREERS/EDUCATION CONCERNS
AZLAW       - for LAW/LEGAL CONCERNS
CITYOR      - for ORGANISATIONS/INSTITUTIONS
LOCAL       - for CURIOSITIES/DATA on OUR TOWN
LIBRY       - for LIBRARY RESOURCES

Please type:
S - S + DATA BASE NAME <ENTER> to SEARCH WHAT YOU WANT
C - C + DATA BASE NAME <ENTER> to CHANGE DATA BASE

X - Exit (to MSDOS)

?
```

Micro CDS/ISIS - (C)Copyright Unesco 1992

Figure 7.1-2 Top Menu for the General Library User (1st user interface)

7.2 RELATIONSHIPS BETWEEN ALIS DATABASES

All databases in ALIS are accessible from a top menu via one-key options for the user to choose from. The six databases in the prototype also relate to one another in content and structure, as presented in Table 7.2-1 ALIS databases structure and content.

Table 7.2-1 ALIS databases: structure and content

Database	Structure	Content
CITYOR	A-Z Directory	Institutions/Organisations
AZHEAL	AZ or Open Dictionary	Health Problems/Concerns
AZJOBS	AZ or Open Dictionary	Job/education concerns
AZLAW	AZ or Open Dictionary	Legal concerns
LOCAL	AZ or Open Dictionary	Local studies/curiosities
LIBRY	Online catalogue	Library resources

Thus, according to Table 7.2-1, the following relationships can be established:

1. All community-related are A-Z modules structured as an open dictionary. Entries consist of fundamental problems or concerns related to health, jobs/education and law, or survival information for everyday life (AZHEAL, AZJOBS, AZLAW databases); an A-Z directory to local studies data, in this case containing highlights on a town, such as boroughs, sights, etc. for the local studies application, LOCAL, and a detailed A-Z directory of local and non-local institutions and organisations, CITYOR;
2. All organisations external to the library referred to in all A-Z databases are fully described in the module/directory for organisations and institutions, CITYOR. Ex.: a human rights organisation such as Amnesty International referred to in an AZLAW entry by name, address, telephone number only is additionally described by purpose, name of contact officer, opening hours, etc. in the directory of local and non-local organisations, CITYOR;
3. Existing resources within the library referred to in the A-Z community-related databases (AZHEAL, AZJOBS, AZLAW and LOCAL) are fully referenced in the system's online catalogue, and
4. The online catalogue LIBRY can also refer to the A-Z community-related databases whenever necessary.

Summing up, the six databases designed for ALIS prototype attempt to promote the organisation, access and retrieval of community-related data by making use of all existing resources likely to be available in the library to this end.

7.3 CITYOR DATABASE

ALIS CITYOR database is an online directory of local and non-local organisations and/or institutions quoted in all other modules of the prototype as capable of complementing or backing up a community-related information supply/query. For this demonstration CITYOR is made of eighty-four records.

CITYOR records contain the following fields:

1. Acronym/abbreviation, full name and unit or department of well-known Brazilian organisations/institutions;
2. Address, post code and telephone of organisations/institutions;
3. Purpose of the organisation/institution, with a brief description of aims, services, products and/or activities;
4. Name and rank/position of contact officer;
5. Days of the week and opening hours;
6. Keywords, date the record was entered and prompt field to exit the database.

Thus, CITYOR is basically a file of resources external to the library users can be referred to for further advice/help/information to complement a community-related information need or concern. It therefore shares the directory structure of many online community information databases currently available in public libraries in the developed world.

CITYOR aims at demonstrating a framework for the systematic organisation of local resources files external to the library in order to encourage co-operation and co-ordination between public libraries and institutions in the community for community information and local studies supply.

Within this premise, local and non local organisations/institutions are included, because community-related information needs may require sources outside the immediate community in order those needs to be met. This is especially true in the case of a developing country of continental proportions like Brazil, where many key organisations/institutions may have their offices only in the federal capital Brasilia and in the state capitals like Sao Paulo and Rio de Janeiro. A very straightforward example illustrates well this fact: there is no Australian or French consulate in the researcher's hometown, Porto Alegre, the most important city in South Brazil and a state capital. In order to request a tourist visa, work permit, study opportunity in these countries, one must contact either the embassies in the capital Brasilia or the consulates of these countries in Sao Paulo or Rio de Janeiro. Thus, these two non-local addresses may be of importance for a public library resources file when need be.

Criteria for including non-local organisations/institutions in CITYOR were the following:

- a. Important national organisations and institutions of historical, cultural, social and/or economical relevance, such as the National Library, the Brazilian Society for Development of Science (SBPC - Sociedade Brasileira para o Desenvolvimento da Ciencia), etc.;
- b. External organisations and/or bodies of reputable profile and relevance, such as foreign embassies and consulates;
- c. International bodies whose activities may relate to the local community, such as the ones belonging to the United Nations Organisation, Amnesty International, the Red Cross, etc.;
- d. Special groups which have historical, cultural, social or religious importance to the community, i.e. associations related to ethnic minorities, religious associations, charities, etc.;
- e. Referrals to education/job-related opportunities, i.e. agencies offering correspondence courses and learning/job-related activities not available locally.

Summing up, CITYOR is ALIS directory of local and non local institutions quoted mainly in all system's modules, but not restricted to them, aimed at encouraging the organisation of resources files external to the public library for community-related information supply.

7.3.1 DATA FOR CITYOR

CITYOR data were extracted from the following sources:

1. Names, acronyms, addresses and telephone numbers of institutions were taken from the telephone directory of the researcher's hometown in South Brazil, Porto Alegre;
2. Definitions and purpose of organisations, contact names, opening hours and days of the week, keywords date the record was entered and field instructing how to exit the database were created by the researcher for this demonstration.

Although definitions, contacts and opening hours may not reflect with exactitude the full nature of the organisations described, a genuine effort was made to illustrate how an automated directory for local and non-local organisations should look like within the framework established for the present prototype.

7.3.2 CITYOR FIELD DEFINITION TABLE

CITYOR Field Definition Table (FDT) is shown next, with data on the contents of the mater

records, definition of fields of a record and the parameters for each field.

Table 7.3.2-1 Field Definition Table for CITYOR

Table 7.3.2-1 - Field Definition Table for CITYOR				
Tag	Field Name	Length	Type	Subfield delimiter
10	Name	70	A	anu (acronym/name/unit)
20	Address	65	A	apt (acronym/post code)telephone)
30	Purpose	300	A	
40	Contact	50	A	
50	Opening	50	A	dh (days/hours)
60	Keywords	250	A	
70	Update	8	A	
80	Prompt	23	A	

A - alphanumeric

Attention should be drawn to the following subfielded fields:

1. Tagged field 10, Name of Institution, with subfields **a** for acronym or abbreviation, if any; subfield **n** for name of institution in full, and **u** for unit/department, if any;
2. Tagged field 20, Address, has three subfield delimiters: **a** for address, **p** for post code and **t** for telephone number;
3. Tagged field 40, Contact, subfield delimiters **n** and **p**, standing respectively for name and position/rank of contact officer in the organisation, and finally
4. Tagged field 50, Opening hours, with subfield delimiters **d** and **h**, for days and hours of the week.

7.3.3 CITYOR DATA ENTRY WORKSHEETS

CITYOR Data Entry Worksheet is the screen layout created for data entry and modification, made of the fields and parameters defined in the FDT, which were prompted on the screen and laid out according to the researcher's specifications for line position of fields, reverse screen attribute, default value for the constant fields in CITYOR records and help messages to assist data entry in this database.

An empty and a filled data entry worksheet for CITYOR are displayed in Figures 7.3.3-1 and 7.3.3-2 in Appendix P.

Help messages designed for each field in CITYOR are presented below. They can be called when entering data in CITYOR by moving to the desired field and pressing **F1** . Help

messages are displayed at the bottom left of the screen:

- 1. Field 10, Name: Enter ^aAbbreviation^nName^uUnit, ex. ^aAA^nAlcoholic_ Anonymous^uSouth Region;
- 2. Field 20, Address: Enter ^aAddress^pPostcode^tTel.:, ex. ^aAv. Independencia, 23^p90.210 Porto Alegre^tTel.:224125;
- 3. Field 30, Purpose: Enter purpose, including terms relevant for retrieval within <...>;
- 4. Field 40, Contact: Enter ^nName of contact person^pPosition, ex. ^nHeidi Tavares^pGenera_Manager;
- 5. Field 50, Opening hours: Enter ^dDay of the week^hHours of the day, ex. ^dMo-Fri^h9.00am-5.30pm;
- 6. Field 60, Keywords: Enter keywords within <...>, leaving no space between <...><...>;
- 7. Field 70, Update: Enter date of record input as DD/MM/YY, as in 17/11/1992.

Tagged field 80, Prompt, has a default value attributed to it, as its content was considered constant for all records in CITYOR. The default value was the message:

*** PRESS X TO EXIT ***

7.3.4 CITYOR DISPLAY FORMAT

The Display Format defined for CITYOR is introduced in Table 7.3.4-1- Display Format for CITYOR. Formats are defined by Micro-Isis complex but powerful Formatting Language for on screen and printer displays, to specify to which data an indexing technique should be applied, etc.

Table 7.3.4-1 Display format for CITYOR

Database Name: CITYOR	Format Name:CITYOR
MFN, " - " MDL,V10%##V20(3)%##,MPL,"Purpose: "V30(3,3)%##, MDL,"Contact: "V40%##,"Opening hours: "V50%##,MHL,V80(25)%#	

This format chooses not to display the keywords field and the date the record was entered. As users have already access to CITYOR's terms dictionary, the display of this field was considered redundant. Date was not entered to save input time, but should be included in a

full operational system because it gives a measure of how up-to-date the record/information is.

This format can be easily modified to display the keywords field by accessing ISISDEF (option **d** of the top/entry menu) followed by database modification (option **u**), and finally alteration of format (option **h**).

To illustrate the display format for database CITYOR, refer to Figures 7.3.4-1 and 7.3.4-2 in Appendix P for two records in this database.

7.3.5 CITYOR FIELD SELECT TABLE

CITYOR Field Select Table is shown in Table 7.3.5-1. It defines criteria for extraction of one or more elements from a master file record, and these elements may be used to create inverted file entries to retrieve records, for sorting records in the desired sequence before producing a printed report, or to reformat records during data import or export operations.

Table 7.3-5.1 Field Select Table for CITYOR

FIELD TAG	INDEXING TECHNIQUE	DATA EXTRACTION FORMAT
10	1 - ELEMENTS FROM EACH SUBFIELD	V10
30	2 - ELEMENTS WITHIN <...>	mpl,V30
60	2 - ELEMENTS WITHIN <...>	mpl,V60

Criteria for choosing the above indexing techniques were the following:

1. Field 10, or Name of institution/organisation, is indexed by technique 1, which builds an element for each subfield or line extracted by the format. In CITYOR's FDT, field 10 has three subfield delimiters **anp**, respectively for acronym/abbreviation of the institution, full name and unit/department, if any;
 2. Field 30, Purpose of institution, is indexed by technique 2, which builds an element from each term, expression or phrase enclosed in triangular brackets <...>. Data is extracted in proof mode, leaving data as entered, or **mpl,V30**.
- This technique was considered the most appropriate to allow for the description of aims, services and products of the institutions/organisations listed and allow for indexing restricted only to relevant terms, phrases and/or expressions capable of conveying aims, services and products to users to be stored in the inverted file.
3. Field 60, Keywords, is also indexed by indexing technique 2, as it should build an element

for each term or expression enclosed within triangular brackets <....> considered relevant for storage in the inverted file. As such, the display is also in proof mode, leaving data as entered, mpl,V60.

7.4 AZHEAL, AZJOBS AND AZLAW DATABASES

AZHEAL, AZJOBS and AZLAW are ALIS A-Z community information databases for health, jobs/education, career-related and legal problems and concerns. They are made respectively of 109 records (AZHEAL), 75 records (AZJOBS) and 64 records (AZLAW), respectively, structured as an open dictionary within the reference/referral framework designed for the present prototype.

Records contain the following data:

1. Name of health, education/job/career-related and legal concern or problem in simple, precise and clear term(s), preferably taken from everyday language, i.e. AIDS, birth control, immunisation, computers, several crafts (dressmaking, baking, etc.), divorce, young person's work, urban policy, etc.;
2. Definition of health, job/education, career-related and legal concern in simple, precise and clear terms, preferably taken from everyday language to allow for immediate identification, content accuracy and understanding of term(s);
3. Referral to existing resources in the library capable of supplying more data on the health, education, job and legal concern considered to encourage the use of wider library resources , i.e. posters, library activity, etc.;
4. Referral addresses to institutions/organisations, preferably in the immediate community capable of supplying more information, aid, help or advice with the concern/entry;
5. Keywords for searching, date the record was entered and field with default message to help user get out of ALIS databases any time.

Effort was made to include a broad scope of health, job, careers and education-related concerns, as well as legal issues to cater for the requirements of a wide range of public library users, i.e. school children, mature citizens, workers, etc. This approach supports the fundamental philosophy of public library services: to make available to all sources of information to foster the growth of individuals and groups in the community and society as a whole.

Summing up, AZHEAL, AZJOBS and AZLAW databases constitute a reference tool for

health, education/job/career and legal information of fundamental interest to users. ALIS contribution for the automated supply of basic health, education/career and legal data lies in the self-defining databases as A-Z files, the link with existing wider resources and institutions in the community. This is a useful framework to encourage the systematic organisation, access and retrieval of community-related data by libraries, the maximisation of existing resources and a more active interaction between libraries and other information suppliers in the community.

7.4.1 DATA FOR AZHEAL

Data for AZHEAL were gathered from the following sources:

1. Names and definitions of health concerns were extracted and abstracted from authoritative reference sources specifically designed for the layman, such as The Home Medical Encyclopaedia by Diocles, the Encyclopaedia of symptoms and diseases by Richard Fisher, the Oxford Companion to Medicine edited by John Walton, leaflets and ephemera produced by the Department of Health and Central office of Information, UK, etc.
2. Addresses and phone numbers for the referred-to institutions were extracted from the telephone directory of the researcher's hometown, Porto Alegre;
3. Most of the referred-to wider library resources contained in the field **In our Library** were taken from existing library collections to illustrate the framework here proposed.

Hybrid data collection for AZHEAL database, i.e. referral addresses from a real location in Brazil and actual public library resources on health issues extracted from the online public access catalogue of a British public library, was unavoidable, for this project was carried out in the UK. It may be the case that Brazilian public library resources on health issues may be much poorer.

Despite the possible scarcity of resources on health issues which may be found in Brazilian public libraries, the premise that has oriented the present doctoral project still holds: when there are scarce resources for community-related information supply on health issues, there is a case for public libraries to act in order to ease this information gap.

Moreover, basic health information in many cases can be obtained free of charge from local health authorities and organisations of repute, such as UNICEF, FAO, etc.

7.4.2 DATA FOR AZJOBS

Data for AZJOBS were gathered from the following sources:

1. Names and definitions for AZJOBS were extracted and abstracted from authoritative reference sources especially produced for the layman. Some of these sources were The Daily Telegraph Career AZ by Careers Intelligence, The Careers' Encyclopaedia by Audrey Segal, a special edition of the quality paper Zero Hora on careers published in the researcher's hometown in Brazil, Porto Alegre;
2. Addresses and phone numbers for the referred-to organisations/institutions were extracted from the telephone directory of the researcher's hometown, Porto Alegre;
3. Most of the referred-to library resources contained in this field were taken from existing library collections in Britain.

Again, the hybrid data collection for AZJOBS, coupling referral addresses in Brazil and resources of British public libraries, was unavoidable. Nevertheless, it was not one of the objectives of this work the analysis of job-related resources in public libraries, but to demonstrate a conceptual and practical model for the systematic in-house organisation of education/job related data for public libraries in that country.

It is important to point out that the systematic organisation, access and dissemination of educational and career opportunities is a fundamental issue for public libraries of a developing country like Brazil, whose population of youngsters and children is high. AZJOBS in this sense constitutes a primary reference tool to help people find out about careers and jobs that will be more fitting for them to fulfil their own vocations.

7.4.3 DATA FOR AZLAW

Data for the present A-Z to legal concerns were gathered from the following sources:

1. Name and definition of legal concerns were extracted and abstracted from ruling legal texts in Brazil, such as the 1988 Constitution, the Consolidation of Labour's Legislation and the Children's and Adolescents' Statute, etc.;
2. Addresses and phone numbers for the referred-to institutions were extracted from the phone directory of the researcher's hometown of Porto Alegre;
3. Most sources in the field **In our Library** refer the user to the ruling legal text by referring, for example, to the article and paragraph on the issue in the Constitution or Consolidation of Labour's Legislation. This approach was compulsory. because the legal text itself must be known so that fundamental rights can be exercised.

This implies that public libraries should organise and maintain a legal resources collection/stock at least for reference purposes. The British and North American experience should be remembered, because many Citizen's Advise Bureaux (UK) and Neighbourhood Advice Centre (USA) are housed in public libraries. AZLAW community-related database aims at drawing the attention of public librarians in Brazil and LIS planners to the need of providing legal information as part of their community-oriented services.

7.4.4 FIELD DEFINITION TABLE FOR AZHEAL, AZJOBS AND AZLAW

The Field Definition Table (FDT) for AZHEAL, AZJOBS and AZLAW, with information on the contents of the master records, fields and parameters for each field in these databases is presented below in Table 7.4.4-1.

Basically, these three databases share the same FDT specifications, differing only in the length of field 20 for AGILE, which is 800 characteres long, whereas it is 700 characters long for AZJOBS and AZLAW. Definitions of health concerns required more space, e.g. AIDS, Birth control, Vaccination, etc., all required more detailed data.

Table 7.4.4-1 Field Definition Table for AZHEAL, AZJOBS and AZLAW

Tag	Name	Length	Type	Delimiter
10	Name	30	A	
20	Definition	800/700	A	
30	Address1	160	A	nuapt
40	Address2	160	A	nuapt
50	Address3	160	A	nuapt
60	Address4	160	A	nuapt
70	In our Library	400	A	
80	Keywords	300	A	
90	Prompt	23	A	
100	Update	8	A	

A= alphanumeric

Attention should be drawn to tagged fields 30, 40, 50 and 60, as they have subfield delimiters identified by the digits nuapt: n stands for name of institution; u for unit/department, if any; a for address; p for postcode and finally t for telephone number.

7.4.5 DATA ENTRY WORKSHEETS FOR AZHEAL, AZJOBS and AZLAW

Data entry worksheets for AZHEAL, AZJOBS and AZLAW have the same specifications. Empty and filled data entry worksheets are enclosed in Appendix P for AZHEAL (Figures 7.4.5-1 and 7.4.5-2), AZJOBS (Figures 7.4.5-3 and 7.4.5-4) and AZLAW (Figures 7.4.5-5 and 7.4.5-6), respectively.

Help messages designed for each field of these databases are presented below. As stated previously, help messages when entering data can be displayed any time by moving to the desired field and pressing F1.

- 1. Field 10, Name: Enter name of concern as one term or phrase, ex. AIDS, Arthritis, Divorce, Urban Policy, Dressmaking, Accountancy, etc.;
- 2. Field 20, Definition: Enter definition in simple terms and clear language, including terms for retrieval within <...>;
- 3. Fields 30/40/50/60 Address1/2/3/4: Enter ^nName^uUnit^aAddress^pPostcode ^tTel. |.;, ex. ^nCity University^uDepartment of Information Science^aNorthampton Square^pLondon EC1V 0HB^tTel.: 071-4778000.
- 4. Field 70, In our Library: Enter referral to library wider resources, ex. the collection, activity, display, exhibit, etc.;
- 5. Field 80, Keywords: Enter keywords within <...>, leaving no space between <...><...>.
- 6. Field 90, Update: Enter date of record input as DD/MM/YY, ex. 07/09/1993.

A default value was assigned to tagged field 10, Prompt. This value is the message:

*** PRESS X TO EXIT ***

7.4.6 DISPLAY FORMATS FOR AZHEAL, AZJOBS AND AZLAW

The Display Format defined for AZHEAL, AZJOBS and AZLAW for onscreen and printed display is introduced below:

Table 7.4.6-1 Display format for AZHEAL, AZJOBS and AZLAW

MFN, " - " V10(3),x20,V100%##,MPL,"What is: "V20(3,3)%##,MDL,"In our library: "V70(3,3)%##V30(3,3)%##V40(3,3)%##V50(3,3)%## V60(3,3)%##

This format does not display the keywords field and date the record was entered. This choice is justified, because users have already have access to the terms dictionary for AZHEAL, AZJOBS and AZLAW. Thus, the display of the keywords field was considered redundant. Screen space was also a concern, as each health, jobs/career and legal concern should be as much as possible a screen page in its own right for users to browse. Although there are screen scrolling keys for the user to move about, effort was made to keep the length of each

record compatible with the length of the screen display for each entry in the databases.

Date was not entered to save input time for this demonstration, but should be included in any operational system because it shows how update the record is.

As for CITYOR, formats can be efficiently and easily altered by accessing ISISDEF services (option D of EXISI), followed by database modification (option U) and finally option H to alter the format.

Figures 7.4.6-1, 7.4.6-2 and 7.4.6-3 in Appendix P illustrate display formats for AZHEAL, AZJOBS and AZLAW, respectively.

7.4.7 FIELD SELECT TABLE FOR AZHEAL, AZJOBS AND AZLAW

The Field Select Table (FST) for AZHEAL, AZJOBS and AZLAW is the same for these databases, and is introduced below in Table 7.4.7-1 Field Select Table for AZHEAL, AZJOBS and AZLAW .

Table 7.4.7-1 Field Select Table for AZHEAL, AZJOBS and AZLAW

FIELD TAG	INDEXING TECHNIQUE	DATA EXTRACTION FORMAT
10	0 -each line of the format	V10
20	2 -elements within <...>	mpl,V20
80	2 -elements within <...>	mpl,V80

Criteria for choosing the above indexing techniques for AZHEAL, AZJOBS and AZLAW were the following:

1. Field 10, or name of the health, job/education/career and legal concern is indexed by technique 0, which builds an element from each line of the format. This technique applies here, as the aim is to index the whole field;
2. Field 20, definition of health, job/career/education and legal concern, is indexed by technique 2, which builds one element from each term, expression or phrase enclosed in triangular brackets <...>. Data extraction is in proof mode, leaving data as entered, mpl,V20.

This technique suits tagged field 20 to allow for the definition of the community-related concern/entry, highlight terms to explain the concern/entry to users and index terms/expressions and/or phrases for the inverted file.

3. Field 80, Keywords, uses also indexing technique 2, as it should build an element from

each term or expression enclosed in triangular brackets considered for storage in the inverted file. It requires therefore proof mode, leaving data as entered, or **mpl,V80**.

7.5 LOCAL DATABASE

ALIS LOCAL studies application is an A-Z to historical and socio-cultural data and/or curiosities designed for the researcher's own hometown in South Brazil, Porto Alegre. **LOCAL** consists of 40 records structured as an open dictionary and conceived within the reference/referral framework designed for this project.

LOCAL is defined as an application module for local studies supply because actual local studies databases constitute a highly specialised public library service whose complexity and specificity may fall beyond the scope of the present experimental project. For example, many local studies databases are designed to store local material not included in national bibliographies due to its exclusive local character, bibliographies of local authors, or services targeted to special interest groups in the community.

LOCAL database contains the following data:

1. Name of local studies entry as a simple and precise term or phrase. In the present application, entries are named after the town's boroughs, sights, parks, local events, etc.;
2. Highlights, i.e. interesting, curious, socio-cultural and/or historical data on the entry;
3. Referrals to existing library resources on the entry;
4. Referrals to location and resource external to the library on the entry;
5. Keywords, update and prompt field.

As shown, **LOCAL** database keeps a conceptual and structural relationship with other community-related databases in **ALIS**, although the nature of data is different and referrals to external resources to the library changed to naming the specific resource and location in the community. The idea was to retrieve the local memory and foster co-operation links with local studies information providers likewise.

ALIS LOCAL studies module was therefore created to raise the issue of local studies supply by public libraries within a community-oriented outreach policy that has yet to be explored in Brazil. Local studies may constitute an area of great potential, because many state public libraries have been long established and likely to possess a collection of local studies interest. The challenge that professionals should therefore face is how to make these resources more visible and attractive to users. **LOCAL** constitutes one step in this direction.

7.5.1 DATA FOR LOCAL

Data for LOCAL were extracted and abstracted from authoritative reference sources on Porto Alegre, the most important city in South Brazil. The following resources were widely used:

- 1. Works such as O que ler para conhecer Porto Alegre (What to read to know Porto Alegre) by Z.C. Felizardo and I.M. Villanova, Pequena Historia de Porto Alegre (Short history of Porto Alegre, in actuality a thick volume though!) by the renowned local historian Walter Spalding,;
- 2. Tourist guides, and
- 3. Calendar of local events and celebrations.

LOCAL is the smallest database in ALIS, because data depended entirely on Brazilian sources which the researcher brought with her, researched herself or was mailed by family and friends. It is hoped nevertheless that the smallness of this sample does not impair the demonstration of the principles underlining the database design.

7.5.2 LOCAL FIELD DEFINITION TABLE

LOCAL Field Definition Table (FDT) is presented in Table 7.5.2-1.

Table 7.5.2-1 Field Definition Table for LOCAL.

Tag	Name	Length	Type	Delimiter
10	Name	35	A	
20	Highlights	40	A	
30	In our Library1	250	A	tapdmko
40	In our Library2	250	A	tapdmko
50	In our Library3	250	A	tapdmko
60	In our town1	250	A	ltaedpmko
70	In our town2	250	A	ltaedpmko
80	Keywords	250	A	
90	Update	8	A	
100	Prompt	23	A	

Attention should be drawn to the following subfielded fields:

- 1.Tagged fields 30, 40 and 50, named respectively In our library1/2/3 have the following subfield delimiters; **t** for title of the resource; **a** for authorship; **p** for publisher; **d** for date of publication; **l** for place of publication; **m** for media packaging of the resource, ex. video, book, etc; **k** kind of material, ex. Adult non fiction, and finally **o** for observation or note, e.g. Highly recommended;
- 2. Tagged fields 60 and 70, respectively In our Town 1/2, have the following subfield

delimiters: **l** for name of the place where the resource can be found in the community; **t** title of the resource; **a** for authorship; **e** for publication/release details; **d** for date of publication; **p** for place of publication; **m** for media packaging; **k** for kind of material, e.g. Children non fiction, and finally **o** for observation or note, ex. Recommended.

7.5.3 LOCAL DATA ENTRY WORKSHEET

An empty and a filled data entry worksheet for LOCAL is shown in Figures 7.5.3-1 and 7.5.3-2 in Appendix P.

Help messages designed for each field in LOCAL are presented below.. They can be called for anytime when entering/modifying data in this database by moving to the desired field and then pressing **F1**:

- 1. Field 10, Name: Enter name of local studies entry as a term or phrase, ex. name of borough, event, curiosity, etc.;
- 2. Field 20, Highlights: Enter highlights for the entry, including relevant terms for retrieval within <...>;
- 3. Fields 30,40 and 50, respectively In our Library 1/2/3: Enter ^tTitle^aAuthorship ^pPublisher^dDate^lLocal of publication^mMedia packaging^k kind of material ^oObservation or Note;
- 4. Fields 60 and 70, In our Town 1/2: Enter ^lLocal in town^tTitle^aAuthorship ^ePublication details^dDate of publication^mMedia packaging^kKind of material ^oObservation or Note;
- 5. Field 80, Keywords: Enter keywords within <...>, leaving no space between <...><...>;
- 6. Field 90, Update: Enter date of record input as DD/MM/YY, ex. 17/11/92.

Tagged field 100, Prompt, was attributed a default value, for its content should be the same in all records, and this is the message:

***** PRESS X TO EXIT *****

7.5.4 LOCAL DISPLAY FORMAT

LOCAL Display Format is shown in Table 7.5.4-1 below.

Table 7.5.4-1 Display format for LOCAL

Database Name: LOCAL	FORMAT NAME: LOCAL

MFN " - ", V10###,MPL,"Highlights: "V20(3,3)###,MHL,"In our library1: "V30(3,3)###,"In our library2: "V40(3,3)###,"In our library3: "V50(3,3)###,"In our town1: "V60(3,3)###,"In our town2: "V70(3,3)%#, MHL,V100(30)%#	

Field 80 and 90 (Keywords and Update) are not displayed for the same reasons stated previously: redundancy due to the existence of the system dictionary available for users to browse, to save screen space and input time from the researcher's standpoint.

Figures 7.5.4-1 and 7.5.4-2 in Appendix P show the display formats for two records of LOCAL database.

7.5.5 LOCAL FIELD SELECT TABLE

The Field Select Table for LOCAL is shown below in Table 7.5.5-1.

Table 7.5.5-1 Field Select Table for LOCAL

Tag	Indexing Technique	Data extraction format
10	0 - each line of the format	v10
20	2 - elements within <...>	mpl,v20
30	1 - elements of each subfield	v30
40	1 - elements of each subfield	v40
50	1 - elements of each subfield	v50
60	1 - elements of each subfield	v60
70	1 - elements of each subfield	v70
80	2 - elements within <...>	v89

- Criteria for the selecting these indexing techniques were as follows:
1. Field 10, Name of local studies entry, is indexed by technique 0, which builds an element for each line of the format, as the goal was to index the whole field;
 2. Field 20, Highlights, is indexed by technique 2, which builds an element from each term or expression enclosed in triangular brackets <...>. Data extraction mode is proof mode, leaving data as entered, mpl, V20.
- This technique suits field tagged 20 to allow for highlighting relevant terms/expressions on the local studies entry which are also important for further retrieval, and as such should be stored in the inverted file.

3. Fields 30, 40, 50, 60 and 70 are indexed by technique 1, which builds an element for each subfield or line extracted by the format. When using this technique, Micro-Isis will search for field delimiter codes defined in the FDT for this database.

4. Field 80, Keywords, uses also indexing technique 2, as it must build an element from each term, expression or phrase enclosed in triangular brackets for storage in the inverted file. It therefore requires proof mode, leaving data as entered, **mpl,V80**.

7.6 LIBRY DATABASE

LIBRY is ALIS online public access catalogue (POACH). The inclusion of an POACH in the present community-related information retrieval system is justified by the fact that the existing on-line catalogue is a gateway for the exploration of wider library resources to backup or complement community-related information queries.

Within this context, in the present prototype there is no intent to design a full-fledged on-line catalogue, but to demonstrate that the catalogue constitutes a primary reference source of community-related information available to users in the library. Thus, ALIS catalogue LIBRY is a reduced version of a library catalogue to demonstrate this issue raised in the present research project.

In case the library has already a prototype, Micro-Isis ISISEXCH - Master File Services will allow the import of external data into Micro-Isis/ALIS databases. Thus, by using this facility, existing resources in the catalogue can be easily and efficiently transferred to the desired ALIS community-related database whenever necessary.

The aim of this approach was to encourage the use of existing public library resources in Brazil for community-related information supply. Especially when these may not abound, available ones should be explored to the fullest.

7.6.1 DATA FOR LIBRY

LIBRY contains almost all referred-to resources to the existing library collection as stated in the field *In our Library* of the AZ community-related databases, apart from CITYOR (the directory of local organisations) and when it refers to a wider library resource, such as a display or event, which obviously do not fit in an POACH structure in any way.

Data for LIBRY were gathered from the following sources:

1. Most resources referred-to for AZHEAL and AZJOBS were collected from a public library catalogue in the UK (Finsbury Library, Islington, London);

2. Resources for AZLAW, as well as references to masterworks of Brazilian literature in different media packaging were collected by the researcher, based on authoritative sources to this end, ex. the 1988 Constitution, film and video guides, etc.
3. Abstracts of all resources in LIBRY were created by the researcher.

7.6.2 LIBRY FIELD DEFINITION TABLE

LIBRY Field Definition Table (FDT) with the contents of the master records, fields and parameters for each field is shown in Table 7.6.2-1.

Table 7.6.2-1 Field Definition Table for LIBRY

Tag	Field Name	Length	Type	Repetitive	Delimiter
22	Date record is entered	8	A		
50	Physical medium/format	35	A		
100	ISBN	10	A		
101	ISSN	8	A		
200	Title	200	A	Repetitive	me
250	Edition	20	A		
300	Author/Artist/Director	250	A	Repetitive	abode
590	Performer	250	A	Repetitive	abode
400	Place of publication/release	200	A		
440	Date of publication/release	25	A		
460	Physical attributes	40	A		
500	Note	220	A		
600	Abstract	470	A		
610	Classmark	15	A		
620	Subject Descriptors	300	A		
1010	Barcode	60	A		
1020	Location in the Library	56	A		
1030	Status of copies	140	A		
1040	Prompt	23	A		

Before analysing the FDT for LIBRY in its compounding elements, attention should be drawn to the field tag numbers and their headings. Most field tag numbers and names are loosely based on the Common Communication Format (henceforth CCF) developed by Unesco. CCF is a code for machine-readable bibliographic description which was created to facilitate the exchange of bibliographic data in machine-readable form. UNESCO developed this format to provide a universal exchange format, conforming to ISO 2709, and suitable for use within the entire library and information community. As this thesis is implementing on a UNESCO software, the choice of CCF was considered the logical choice for the bibliographic description of resources in LIBRY.

Attention should be drawn to the following fields in LIBRY:

1. Tagged field 50 (CCF), Physical medium the resource is packaged: for the purposes of

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this demonstration, CCF codes were expanded to include the following: BOOK, MAGAZINE, JOURNAL, MUSIC CD, MUSIC CASSETTE, VIDEO/FILM, NEWSPAPER, COMPUTER SOFTWARE, CD-ROM DATABASE, etc.;

The statement of physical medium the resource is packaged is justified because many library resources may come in different packagings and users should be given the opportunity to choose the information they seek in the medium that most appeals to them. Example: a video on a health issue like the heart, an audio visual for local studies, etc.

Moreover, public libraries in a developing country like Brazil, where illiteracy tend to be high, should develop collections in non-printed formats to cater for this population, especially regarding survival matters such as health, education and rights.

2. Tagged field 200, Title (CCF) received two subfield delimiters: **m** for Main title and **e** for Extended title;

3. Tagged field 300, Authorship (CCF), i.e. of a book, director for a movie picture, painter for a painting, etc. is 250 characters long, alphanumeric and repetitive, as this is a case where a given data element (author) may occur more than once in a given record. thus requiring that Micro-Isis be able to hold all occurrences of this field (different authors) under the same tag;

4. Tagged field 590, Performers (CCF), ex. for musical pieces, movie pictures, etc. also a repetitive field;

5. Tagged field 400, Date of Publication/issue (CCF): include four subfield delimiters: **p** for place; **a** for address; **t** for telephone number and **c** for country;

6. Field 1000, Machine it runs on, was designed for this application, bearing in mind resources such as softwares, games, special video/film material, etc., which may require a special display device;

7. Tagged field 1020, Location in the Library: the following locations in the library were envisaged for this demonstration: COMMUNITY INFORMATION LIBRARY, LOCAL STUDIES LIBRARY, FICTION LIBRARY, REFERENCE LIBRARY, VIDEO LIBRARY, COMPUTER LIBRARY, SPECIAL COLLECTION, etc. These headings are left to the creativity and environment of the public libraries using the prototype;

8. Tagged field 1030, Status of Copies, is 140 characters long, alphanumeric and has one

subfield I for On loan - Due back DD/MM/YY.

7.6.3 LIBRY DATA ENTRY WORKSHEET

Figures 7.6.3-1 and 7.6.3-2 in Appendix P show an empty and a filled data entry worksheet for LIBRY.

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Help messages designed for LIBRY were the following:

1. Field 22 Date: Enter date the record is entered as DD/MM/YY, ex. 17/11/1992;
2. Field 50 Physical medium packaging: Enter physical medium packaging, e.g. BOOK, MAGAZINE, JOURNAL, MUSIC CD, MUSIC CASSETTE, VIDEO, NEWSPAPER, COMPUTER SOFTWARE, etc.
3. Field 100 ISBN: Enter ISBN number;
4. Field 101 ISSN: Enter ISSN number;
5. Field 200 Title: Enter ^mMain Title^eExtende Title, eg. ^mAids^ethe facts;
6. Field 260 Edition: Enter edition details;
7. Field 300 Authorship: Enter authorship as Surname%Name%Surname, Name%Surname, Name, etc. The sign % indicates a repetitive field;
8. Field 590, Performers: Enter performers, ex. actors of a movie picture, artists, etc. as %Name and Surname%Name and Surname, etc. The sign % indicates a repetitive field;
9. Field 400 Place of publication: Enter ^pPlace^aAddress^nTelephone number ^cCountry;
10. Field 440 Date of publication: Enter date of publication/release;
11. Field 460 Physical attributes: Enter physical attributes, ex. number of pieces, dimensions, etc.;
12. Field 500 Note: Enter any information not entered elsewhere in the record. Relevant terms for indexing within <...>;
13. Field 600 Abstract: Enter short abstract, including relevant terms for indexing within <...>;
14. Field 610 Classmark: Enter classmark;
15. Field 620 Subject descriptors: Enter subject descriptors within <...>, leaving no space between <...><...>;
16. Field 1000: Enter 'Machine it runs on' for softwares, games, special av material, etc.;
17. Field 1010 Barcode: Enter barcode;
18. Field 1020, Location in the Library: Enter one of the following: COMMUNITY INFORMATION LIBRARY, REFERENCE LIBRARY, LOCAL STUDIES LIBRARY, FICTION LIBRARY, NON-FICTION LIBRARY, VIDEO LIBRARY, COMPUTER LIBRARY, SPECIAL COLLECTION, etc.;
19. Field 1030, Status of copies: Enter ^IOn loan - Due back DD/MM/YY, or ^ILost - No copies available;

Tagged field 0001 has default value with the content: ***** PRESS X TO EXIT *****

7.6.4 DISPLAY FORMAT FOR LIBRY

The Display Format defined for LIBRY is introduced in Table 7.6.4-1.

Table 7.6.4-1 Display Format for LIBRY

Database name: LIBRY	Format name: LIBRY

MFN " - ", V50(2)%##,MDL,V300(2,2),V200(2),V260,V400,V440,V450,V460, "With: "V590%##,"Content: "V600(2,2)%##,"Notes: "V500(2,2)%#l##, "Machine it runs on: "V1000%##,MDL,"Location in the library: " V1020%##, "Classmark: "V610(10)%##,"Copies availability: "V1030((2,2)%##, V1035(30)%#l	

This format tried to simulate the standard bibliographic reference format for the resources described in LIBRY.

Figures 7.6.4-1 and 7.6.4-2 in Appendix P illustrate display formats for two records in LIBRY.

7.6.5 LIBRY FIELD SELECT TABLE

LIBRY Field Select Table is presented below in Table 7.6.5.-1.

Table 7.6.5-1 - Field Select Table for LIBRY

Field TAG	Indexing Technique	Data extraction format
100	0 - each line of format	V100
101	0 - each line of format	V101
200	1 - elements from each subfield	V200
300	1 - elements from each subfield	V300
500	2 - elements within <...>	mpl,V500
600	2 - elements within <...>	mpl,V600
610	0 - each line of format	V610
1010	0 - each line of format	V1010
1020	0 - each line of format	V1020

The following criteria oriented the choice of the indexing techniques above:

- 1) Fields 100(ISBN), 101(ISSN), 610 (Classmark), 1010 (Barcode) and 1020 (Location in the Library) are indexed by indexing technique 0, which builds an element from each line of the format, e.g. a technique suitable to index whole fields;
- 2) Field 200 (Title) and 300 (Author) are indexed by technique 1, which builds one element for each subfield extracted by the format. This indexing technique is appropriate to index subfielded fields;

3) Finally, field 500 (Note), 600 (Abstract/Content) and 620 (Subject descriptors) are indexed by technique 2, which builds an element from each term, expression or phrase enclosed in triangular brackets, <...>. This technique requires data extraction in proof mode, leaving data unchanged, mpl.

7.7 ALIS MAINTENANCE AND USE

7.7.1 DATA ENTRY

Data entry in ALIS is done through electronic worksheets specified for each database during the database definition phase. Specifications of data entry worksheets is interactive: the system prompts the parameters defined for each field according to the FDT of that database, and the designer has a choice of options on layout, position of fields, definition of help messages for data entry in fields and default values for constant fields in database records.

To enter, add or alter data in ALIS databases, the system's standard *ISIS/ENT - Data Entry Services* (option **E** of the top menu EXIS) is called for. The user is prompted to enter the name of the database s/he intends to work on, and is then taken to menu EXE1 for Data Entry Services shown in Figure 7.7.1-1 Menu EXE1 for Data Entry Services.

The following options of this menu are specially important for maintaining ALIS:

1. Key **R** (edit last search results): very useful, because community-related information may require frequent updates that can be done thematically by using this key;
2. Key **G** (make global changes or checks): especially useful and present only in Micro-Isis version 3.0. Enables global changes or checks, such as deletion of records by *Master File Number*, creation of a *Save* file for selected records by their number, check fields for invalid spaces, special record validation, global changes in fields and global string replacement.

When choosing one of these one-key options (apart from **G** - Make global changes or checks), ALIS displays the first page of the worksheet for the record, and positions the cursor at the beginning of the first field on the screen. A general help menu appears at the bottom of the screen.

HELP instructions for data entry designed during the database definition phase can be accessed by pressing **F1** when in the field one desires to enter/alter. HELP instructions are particularly important in ALIS in the following cases:

- a. Subfielded fields requiring the insertion of the sign ^ followed by the subfield delimiters defined previously in the FDT, and

- b. Repeatable fields, where all occurrences after the first are separated by the sign %, as in
Robertson, S%Hancock-Beaulieu, M.

Fields are validated according to the field type defined on the FDT for each database. If the entry does not match the defined field type, an error message appears on the screen and the cursor is repositioned at the beginning of the field so that corrections can be made.

Figure 7.7.1-1 Menu EXE1 for Data Entry Services

Service ISISENT

Data entry Services

Menu EX:

W - Select another worksheet

N - Create new record

E - Edit record (or range)

R - Edit last search results

G - Make global changes / checks

D - Define default values

P - Recall last record modified

C - Clear default values

X - End Data Entry

? -

data base: AZLAW

Max MFN : 65

Worksheet: AZLAW

Format : AZLAW

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7.7.2 DATABASE INDEXING

The following database indexing techniques were used in ALIS:

1. *Technique 0*: to index the whole contents of a field, ex. for the names of community-related information concerns;
2. *Technique 1*: to index the entire contents of each subfield within a field, i.e. used in the directory of organisations for acronym, name and unit of organisation/institution;
3. *Technique 2*: to index terms and/or expressions contained within triangular brackets, <...>, very useful for keywords and terms/phrases for relevant for further retrieval in all databases in ALIS;

The maximum length of index entries is 30 characters, an acceptable length for the purposes of this demonstration and the specificity of each database in the prototype.

Indexing a database in ALIS may take some time and require disc space. After a data entry session, the system can and must be instructed to extract and invert terms from the newly added records, creating an up-dated inverted file for the next search session. Inverted file update is a compulsory routine whenever data is entered or altered in ALIS, so that changes can be made immediately available for use, thus completing data entry operations.

Inverted file update can be called by choosing option **I** of the top/entry menu EXISI for ISISINV - Inverted File Services, followed by option **U** for Inverted File Update. Alternatively, one can simply wait for the data entry operations to finish and terminate using ALIS for the day, which will generate the system prompt:

Do you want to update the Inverted file? (Y/N)

In case of positive reply, inverted file update will start at once.

7.7.3 MAINTENANCE OF MASTER FILES

Each Master File for AZHEAL, AZJOBS, AZLAW, CITYOR, LOCAL and LIBRY contain all records for each database in ALIS, thus the importance of master file maintenance services, especially to maintain the open dictionary structure demanded by information repackaging, and to facilitate data exchange and integration of ALIS with existing or external automated systems.

Master file maintenance services are provided by the standard ISISXCH - MASTER FILE SERVICES (option **M**) of the top menu EXISI. A database name is requested, and the user is then taken to menu EXCH, with the one-key options according to Figure 7.7.3-1 Master File Maintenance (menu EXCH).

Figure 7.7.3-1 Master File Maintenance Services (menu EXCH)

Service ISISXCH

Master file services

Menu EXCH

- B - Master file backup
- R - Master file restore
- C - Reorganize Master file
- I - Import external file
- E - Export CDS/ISIS file
- X - Exit

?

a base: AZLAW
MFN : 65

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Worksheet: AZLAW
Format : AZLAW

Of fundamental importance for this project are options **I** (data import) and **F** (data export), as they can be accounted for the following:

1. To facilitate ALIS incorporation into any public library in Brazil which have already start automation using a personal computer to this end compatible with IBM PC/XT/AT/PS2. It is important to stress that ALIS is intended as a much needed addition to current library operations and services, and is not suggested to disrupt existing automation practice. Data import from existing automated files into ALIS prototype is therefore a fundamental requirement, as well as a common sense strategy to be put into practice;
2. To enable the exchange of community-related information with branch or minor libraries and information partners in the community who already possess their own automated systems;
3. Essential to maintain the A-Z or open dictionary structure proposed for ALIS databases. Community-related information tends to be highly dynamic and require constant updates. This facility provides a basic tool to maintain the A-Z structure demanded by information repackaging

For the purposes of the present prototype, special emphasis should therefore be given to master file maintenance.

7.7.4 INFORMATION RETRIEVAL SERVICES IN ALIS

Two kinds of information retrieval services are provided in ALIS, both accessed from option **S** for ISISRET - Information Retrieval Services of the top menu EXISI:

1. The standard Micro-Isis ISISRET - Information Retrieval Services, menu EXGEN, illustrated in Figure 7.7.4-1, available to the library personnel only, and
2. A simplified version of the standard information retrieval services, menu EXGEN introduced below, with additional help messages for the general public library user. This simplified ISISRET - Information Retrieval Services for the general user is introduced in detail in section 7.7.7-1 ALIS General Library User Interface.

The following information retrieval services are available for both library staff (in the standard menu EXGEN) and the general library user (the simplified EXGEN menu):

- a. *B - Browse master file:* to display the master file from a given Master File Number (MFN),

or by pressing **ENTER** to start at the beginning of the master file, i.e. database;

Figure 7.7.4-1 ISISRET - Information Retrieval Services (menu EXGEN)

rice ISISRET

Information Retrieval Services

Menu EXGEN

B - Browse Master file

T - Display terms dictionary

S - Search formulation

D - Display search results

G - Execute previous search

R - Recall query formulations

P - Save search results

X - Exit

? _

a base: AZLAW

MFN : 65

Worksheet: AZLAW

Format : AZLAW

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b. *T - Display terms dictionary*: to browse the search terms dictionary on the screen, as well as to select terms for searching. This is an extremely useful searching tool in ALIS, as one can look up for synonyms of terms and search expressions to which no records were found;

c. *S - search formulation*: for entering a search expression, i.e. any data sought after by the user. Search expressions in ALIS are formulated by making use of Micro-Isis search language described in the following section. The screen will prompt the message:

Prompt 0004: Search expression?

and the reply can be a word/term, a search expression using Boolean operators, etc.

In response to the search expression the system will display the number of postings for each term in the expression and evaluate the resulting number of records retrieved, which is found in the last line displayed. To see the results of a search, press **D** to display records retrieved.

Each search expression generates a set number, which can be referred to later, i.e. to recall a search previously made.

d. *D - display search results*: to show the records retrieved by the last search expression submitted. A message and a beep will sound if no records are to be displayed;

e. *R - recall query formulation*: to see searches previously made.

The following one-key options are available in the standard ISISRET services for the library personnel only:

i. *F - change display format*: only one standard format was drafted for all databases in ALIS. Nevertheless, for the production of ephemera, the library may feel like using this option to produce different layouts;

ii. *G - execute previous search*: allows the execution (and optionally re-editing) of a previously submitted expression. Most automated library systems currently available do not offer this facility for their general library users, so it was also considered superfluous for ALIS general users;

iii. *P - save search results*: allows to save the results of the most recently entered search expression for subsequent printing. The name of a save file must be supplied by the user. General library users in ALIS are not given access to printer, as this is not practice in many public libraries in the UK. Nevertheless, there is a need to keep this facility in the standard

menu for library staff, who will judge when appropriate to save search results for printing, i.e. information exchange, bibliographic searches, etc.

Finally, when search results are displayed in ALIS, on the upper left-hand side of the screen Micro-Isis version 3.0 informs the number of records to be displayed and the number of the record currently seen, e.g. **1 of 15** (records to be displayed). To move forwards or backwards, one can use the **UP** and **DOWN** and arrow keys, as the screen instructs. To terminate, one presses **X** to exit.

7.7.5 SEARCH LANGUAGE

Search language used for all ALIS databases is based on Boolean algebra, and searches can be made by:

1. *Precise terms*: any searchable element defined for a given database, such as subject descriptors, keywords, key phrases, words in titles, author names, etc. As there is no spelling checker available, it is important to ensure that spelling is always correct;

2. *Right-truncated search terms*: instead of specifying a precise search term, one may specify a *root*, as this technique is referred to as root searching or right truncation. Right truncation is indicated by placing a dollar sign **\$** immediately after the last root character.

Example: a search expression **COMMUNITY\$** can be equivalent to
COMMUNITY ACTION
COMMUNITY INFORMATION
COMMUNITY INFORMATION SERVICES

Note that the dollar sign must be typed with the last letter of the term to be truncated. **COMMUNITY \$** will produce an error message.

3. Using search operators based on Boolean logic and enriched by proximity operators and field qualification. To illustrate the available range of searches possible with search operators,

Logical OR connection: **A+B**
Logical AND connection: **A*B**
Logical NOT connection: **A^B**
Occurrence in fields with identical tags: **A (G) B**
Occurrence in the same field: **A (F) B**
Occurrence in the same field, with a distance less than the no. of dots: **A...B**

4. By combining two or more search terms with search operators to make complex search expressions, i.e. **(A + B) * C ^ D**. Note that parenthesis are solved first and then combined to other operators.

5. By using a qualifier to specify the field or group of fields in which one wants a term to appear, the qualifier being a search term $t_1, t_2, t_3 \dots$, where t_1, t_2, t_3 is the set of field identifiers where one wants the term to be searched, such as a query to retrieve all records containing the following terms

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Note that the number of records retrieved by such search may be very large and require further narrowing down of possibilities.

6. Free text searching: for the specification of search requirements on fields which have not been inverted and/or to specify conditions which one would not otherwise be able to indicate through the types of search expressions described above, i.e. in the comparison of fields or comparison of numerical value of fields.

A free text search is entered by selecting option **S** of the EXGEN menu. To distinguish it from a normal search expression, it must be preceded by a question mark **?** as follows:

? Boolean expression or
? #n Boolean expression where

? identifies this as a free text search
#n optionally restricts the free text search to the results of a previously submitted search (n is the set number of the search) which may be either an inverted file search expression, another free text search or a combination of both; if omitted, the free text search is carried out over the whole database
Boolean expression is a Micro-Isis Boolean expression, as described above.

The program issues messages while free text searching is being processed. As this can be a long process if searching large databases, free text searching can be suspended any time by pressing any key so that one can have a look at the partial results to decide either to continue or terminate the search.

Clearly, the search language allows many search alternatives. This must be taken into account for the setup of an ALIS-like operational environment, as inexperienced users may need help to develop more complex search strategies via the system's powerful search language.

7.7.6 DEVELOPMENT AND RESPONSE TO A SEARCH

The basic point for building a search formulation in ALIS is to enter the desired data sought after by means of a search expression, taking full advantage of the system's search language as defined above. In fact, each time one selects option **S** of the ISISRET - INFORMATION RETRIEVAL SERVICES and search menu, one is creating a new search expression.

In response to a search expression, the system will:

1. Assign a unique number, called **set number**, to the search expression entered (provided it contains no syntactical and spelling errors) and
2. Display the number of postings for each term in the expression, for each sub-expression and for the whole search expression.

For example, a search expression

(Sao Paulo + Rio de Janelro) * INFORMATION RETRIEVAL

can give the following reply:

```
1 Set 1: (SAO PAULO + RIO DE JANEIRO) * INFORMATION RETRIEVAL
2 P= 488  SAO PAULO
3 P= 1865  RIO DE JANEIRO
4 P= 2192 - #2: SAO PAULO + RIO DE JANEIRO
5 P= 84  INFORMATION RETRIEVAL
6 P= 8 - #3: INFORMATION RETRIEVAL * #2
7 P= 8 - #1: #3
```

The interpretation of the lines is as follows:

- Line 1 Contains the set number assigned by Micro-Isis to the search expression (1 this case)
- Lines 2-3 Contains the number of postings(P=nnn) for each term used in the inner-most sub-expression
- Line 4 Contains the number of records (T=2192), the sub-expression number (#2) and the matching sub-expression (SAO PAULO + RIO DE JANEIRO). In this case, there are 2192 records containing the term SAO PAULO or the term RIO DE JANEIRO, or both.
- Line 5 Contains the number of postings (P=nnn) for each term in the next level of the expression, in this case in the outer-most level.
- Line 6 Contains the number of records (T=8), the sub-expression number (#3) and the matching two sub-expressions, i.e. INFORMATION RETRIEVAL * #2 (from Line 4)
- Line 7 Contains the number of records (T=8), the query expression number (#1) and the sub-expression number (#3) from Line 6.

Note that in case a term entered is not valid or is not understood by the system, the following message will appear: **** NOT FOUND ****, and one can either try another search, examine the terms dictionary to see whether the system has the desired term under any other synonym, or one can terminate the process by exiting the information retrieval services.

Finally, there are no set rules for formulating a search, the search language being only a tool for effective retrieval.

7.7.7 ALIS GENERAL LIBRARY USER INTERFACE

ALIS General Library User Interfaces constitute two simplified versions of Micro-Isis standard menus: 1) Menu EXISI, the top/entry menu, and 2) menu EXGEN or ISISRET - Information Retrieval Services.

Figure 7.7.7-1 ALIS top/entry menu for the General Library User

```

Micro CDS/ISIS - Version 3.0
WELCOME TO ALIS
*** OUR AUTOMATED LIBRARY AND COMMUNITY-RELATED INFORMATION SYSTEM ***

ALIS has the following DATA BASES for YOU to SEARCH/USE/LOOK UP:
    AZHEAL      - for HEALTH CONCERNS
    AZJOBS      - for JOBS/CAREERS/EDUCATION CONCERNS
    AZLAW       - for LAW/LEGAL CONCERNS
    CITYOR      - for ORGANISATIONS/INSTITUTIONS
    LOCAL       - for CURIOSITIES/DATA on OUR TOWN
    LIBRY       - for LIBRARY RESOURCES

Please type:
S - S + DATA BASE NAME <ENTER> to SEARCH WHAT YOU WANT
C - C + DATA BASE NAME <ENTER> to CHANGE DATA BASE

X - Exit (to MSDOS)
?
```

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Figure 7.7.7-2 User Interface for Information Retrieval

Menu EXGEN

```

*****
***** HOW TO SEARCH FOR WHAT YOU WANT IN ALIS *****
*****
Please type:
- (Search) + DATA you WANT <ENTER> + D - (Display) SEARCH RESULTS

Keep pressing <ENTER> or use ARROWS (UP/DOWN KEYS) to SEE MORE DATA
To do another SEARCH: S + DATA you WANT + <ENTER> + D for DISPLAY

B - BROWSE Database Number/<ENTER>
T - TERM for DICTIONARY OR <ENTER>
R - Recall SEARCHES DONE + <ENTER>
X - Exit (back to entry menu)

?
```

These two simplified menu versions were designed to facilitate the use of ALIS by the general library user, provide additional helpful information on how to proceed to use ALIS and prevent the access of general users from services which would not concern them, i.e. master file maintenance, data entry, inverted file generation, etc. Figure 7.7.7-1 shows ALIS top/entry menu, the first interface for the General Library User.

Basically, a serious attempt was made to make the menu-driven instructions user-friendly so that the underlying command language could be disguised as much as possible by the use of mnemonic names for databases and choice of one key for each function/service to be executed.

Thus, ALIS top/entry menu as shown in Figure 7.7.7-1 welcomes the user to the system, displays the names of the databases available for use and their topic, and contains two one-key options. The first key **S** conducts to the information retrieval services or the users' search interface, and the second key, **C**, allows to change the database one is currently working on. This is a simple and direct entry menu, especially designed with the inexperienced public library user in mind.

Figure 7.7.7-2 shows ALIS user interface for information retrieval: the search interface for the general library user.

Again, a simplified and direct menu, with clear and concise instructions. The following aspects are highlighted in it:

- a. Search and display operations as a continuum, i.e. the entry of a search expression by pressing **S** leads to the display of search results, if any, by pressing option **D**;
- b. Other one-key functions follow next to help the inexperienced user: browsing the database, terms dictionary lookup and recall of previous searches;
- c. Finally, the way out to ALIS top/entry menu to choose another database or terminate searching.

It is important to point out that the printer could not reproduce the reverse screen display that makes the one-key options stand out. At the bottom left and right, the system indicates the current database name, number of records it contains, database worksheet and format, respectively.

Although character-based only, the designed user interface tried to capture the nature of the

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databases, their content and offer clear instructions to guide the non-experienced user in his/her interactions with the present prototype.

PART III - EVALUATION

CHAPTER 8

EVALUATION OF ALIS PROTOTYPE IN BRAZIL

This chapter covers the presentation of evaluation results of ALIS prototype carried out in Brazil. As described in Chapter 4, evaluation data for ALIS prototype was obtained from:

1. Individual In-depth interviews with Brazilian practitioners on their perceptions of community information and local studies, resources and practices;
2. Individual self-administered questionnaires on system use and performance;
3. Individual interviews on system implementation;
4. Collection of real community-related information queries.

Thus, this chapter starts first by describing the two services visited, identified respectively as Library A and Library B, and proceeds to report the professionals' appraisal of ALIS conceptual framework, use and system implementation issues, as well as the results of real users' queries collected in the two services visited to check the present experimental model suitability (or not) to deal with real life queries of a public library environment in Brazil.

8.1 THE SERVICES VISITED

8.1.1 LIBRARY A

Library A, Public Library Mario de Andrade, located in the Brazilian city of Sao Paulo and belonging to that municipality, was founded in 1925 and is the most important and well-equipped public library in Brazil. According to the Encyclopaedia of Library and Information Science edited by Allen Kent, volume 40, Supplement 5 (1986), the accomplishments of its professionals, especially in the field of public library service to both adults and children *'constitute an impressive success story and the observations and study of their works and deeds fills one with admiration and contributes to a sense of well-being and optimism'* (p219). In many aspects, Mario de Andrade Library resembles a mini-national library in terms of size, collection, resources, variety of services and international reputation. The first conference for Latin American public libraries sponsored by UNESCO in 1951 took place in its quarters.

ALIS evaluation was carried out in the Information Service for Citizenship (henceforth ISC). As the name indicates, this is a community information service in its own right. ISC originated from the expansion of the general enquiry service of Mario de Andrade Library, called *'The Information Balcony'* at the end of 1991 to include survival information of interest to the general public the library caters for.

Initially, the project received funds from the Planning Secretariat of the State of Sao Paulo. The withdrawal of such funds in 1992, a sadly common occurrence for many public information services in Brazil, did not close down the service, under the leadership of energetic librarian Maria Antonia G. M. Botelho.

ISC is well signposted and located at a privileged location on the right-hand side of the lobby of Mario de Andrade Library. Indeed, one has to pass by ISC to access the several rooms displaying the library's collection. The Service has two large rooms, subdivided in minor areas according to convenience by shelves and filing cabinets. The service has eight full-time professionals, (six LIS graduates; others hold BA/BSc degrees, e.g. Portuguese and Brazilian Literature, etc.). Four professionals took part in the evaluation of ALIS, all LIS graduates with minimum experience of 5 years in reference work.

In terms of resources, the Information Service for Citizenship has its own reference collection, containing directories, encyclopaedias, dictionaries, etc. as well as its own manual files and word processed files. In-house generated files kept in folders are classified by broad subject areas, and an internal index is issued periodically. The service's computer is an IBM PC/XT, 512k RAM, with floppy disc unit, 1 hard disc and monochrome screen. A printer is

also available. ALIS was copied into a special directory in this computer and left there for professionals to use.

ISC co-operates with some organisations in the community, but still much has to be done in this respect. The service has continued despite many pressures

Queries are received on a walk-in basis, by telephone and mail/fac-simile.

8.1.2 LIBRARY B

Library B, the Public Library of Rio Grande do Sul State, located in the researcher's hometown of Porto Alegre, was founded in 1871. It therefore has been involved with the community for more than one century. Presently, it is the head of its regional public library system and its building had just been totally renovated. This is the largest and most well-equipped public library in South Brazil. It houses important works of local studies interest and, among other collections, has a large Newspapers Section.

ALIS evaluation took place in the Reference Section of Library B. As the name indicates, this is a conventional reference section of a library. The service is well-signposted, but located inside the main reading room, on the right-hand side. Open access to shelves is provided, and there is permanently at least three professionals at the Enquiry Desk. On the whole, the reference staff is made of six professionals, four LIS graduates.

Two professionals, both LIS graduates, took part in the evaluation of ALIS. Both had more than five years of experience in reference work.

Automation had just started in that library, so terminals were not yet available for the general library user. ALIS was copied into the hard disc of the IBM PC/XT, 512K RAM, monochrome, with floppy disc and hard disc drive existing in the premises.

Enquiries were mostly received on a walk-in basis, with just a few telephone calls and mail enquiries recorded as well.

8.2 THE CONCEPTUAL FRAMEWORK

In what follows, results collected in Brazil are presented regarding the professionals' perception of the conceptual framework designed for ALIS and its feasibility. Data for sections 8.2.1 to 8.2.7 was collected from preliminary in-depth interviews with practitioners.

8.2.1 PERCEPTION OF CONCEPTS

Librarians demonstrated awareness of the concepts of community information and local studies.

Community information was defined by evaluation participants as:

1. *'Basic information for the right to citizenship, such as personal documentation, health services, free services, i.e. dental care, legal aid, etc. A service for the citizen in what s/he may need in a day-to-day basis to cope with demands of living in society' (head and founder of ISC in Library A);*
2. *Everyday information to sort out problems or needs, such as data on welfare in general, free services and aid agencies, government benefits, etc. Two statements from Library A differed on the emphasis placed either on 'basic everyday information or 'basic/fundamental needs'. One library also added 'that may be difficult to find elsewhere'.;*
3. *'Useful information of the quick type for queries about common problems, involving many times the indication of addresses to users when an answer cannot be found' (Library B);*
4. *'Information related to normal life, direct and useful data to solve the most varied concerns, such as free government services, health, the law, documents, etc. ' (Library A);*
5. *'Fast and utilitarian information, many times for services and addresses that may be of help for people locally' (Library B).*

Emphasis on *'free of charge'* and *'quick and fast information'* is not generally emphasised in the literature.

Definitions for local studies were looser, as expected. The term does cover a wide range of specially designed services in public libraries. Our aim was to check the awareness of the concept in Brazil to ascertain whether professionals saw this service in the context of community-related information supply in public libraries.

Concepts given ranged from:

- a. Special work, studies or activities carried out by libraries to preserve or emphasise a special aspect of their collections or cultural heritage, in the moulds of their existing Local History/State Sections;
- b. Information regarding a determined city, borough or region that is relevant to that environment;
- c. Studies referring to the area people live and special aspects of the environment, to

d. Varied information services that cannot be classified or given elsewhere and that the library attributes to itself the role to provide them by default (a laugh followed this statement).

Findings therefore show that despite the lack of local studies projects in Brazilian LISA literature, the concept is not unknown to practitioners.

8.2.2 NEED FOR COMMUNITY INFORMATION AND LOCAL STUDIES

Libraries A and B saw a need for community information supply in their environments, but had to be asked again about local studies provision, as if they had overlooked the query. Justifications for community information supply were the following:

1. Location of the library at the heart of a urban setting where millions of people circulate, creating therefore the need for a place where they could get from the simplest to the most complex piece of information. This point was emphasised strongly by Library A, and mentioned by Library B;
2. Need for a place where basic information necessary for daily life could be obtained free of charge. To this librarian's knowledge (Library A), there were other information services locally, but they either did not last long or were not especially targeted to this sort of data. Examples to illustrate this point were the recent opening and closure of two community information services, one funded by the Planning Secretariat of that state, and the other service was 'The Information Leaflet' created by one of the local quality newspapers. Thus, opening and closure of community-related information services seemed to be not uncommon. At least in the public library there was a warrant for the continuity of such service, as the history of their own service proved to be;
3. A fundamental unacknowledged need, because at the same time that more information is needed to cope with modern life in Brazil, data/information is not very much advertised and people do not know where to find it;
4. *'People walk and ask these questions. So if we cannot answer them, at least an indication of where they should go to should be given: this is part of the job'* (Library B).

These were the most insightful comments justifying community information supply.

When prompted again on the need for local studies provision in their libraries, professionals showed division. They stated they did get queries on local studies in general, such as

enquiries related to historical data on the foundation of important sites or dates of birth and obituaries of local personalities which they tried to cater for. However, there was always a thin line whether they were the most qualified to provide an answer or not.

Librarians in both libraries who said that the local studies queries should be treated in their community information section saw them as part of answering questions of reference work, from the simplest to the most complex, i.e. cases of bibliographies of local authors possessed by the library. They added that the fact that they worked for important public libraries made them the most well-equipped to deal with such queries anyway, no matter how odd or difficult some of them could sound.

Librarians who did not favour the inclusion of local studies as a community-oriented information service stated that such queries required certain negotiation to find out whether they could be replied by them. Also, such queries frequently deserved a more specialised treatment, and so should be passed on to the sector which dealt with local/regional information in both libraries, or referred to elsewhere in the community.

Data was collected from individual in-depth interviews with practitioners.

8.2.3 ASSESSMENT OF INFORMATION REPACKAGING

After using the prototype, professionals were requested to fill up an individual self-administered questionnaire to give their assessment of the usefulness, appropriateness and suitability of AILS conceptual framework as presented in the prototype.

Information repackaging of community-related information concerns as entries and their definitions created by libraries was considered useful and suitable, justified by the following:.

1. The form the data was worked out for entries and definitions by extracting and abstracting information from reliable and copyright-free sources was considered useful, informative yet quite complex, despite the simplicity of the format;
2. The careful choice of terms for entries and definitions, from the simplest ones stemming from everyday language to the most complex terms or expressions contextually related to each entry;
3. The open dictionary format was considered extremely useful for users and staff alike. Praise was given to the fact that terms in the definitions constitute also access points for retrieval by the use of the triangular brackets.

8.2.4 ASSESSMENT OF ALIS REFERENCE FRAMEWORK

On the dual reference function underlining ALIS as a primary reference tool for community-related data that also refers/directs the user to wider library resources, librarians unanimously agreed that it was useful, appropriate and suitable, justified by the following:

1. From the users' standpoint, it made clear concepts and definitions they may not know or not to know correctly;
2. It made clear what reference work is like, encouraging the user to explore resources available in the library;
3. It constituted a gentle way to teach users information seeking skills;
4. From the professionals' standpoint, it fostered the systematic organisation of existing library resources for topics considered relevant for community-related information supply;
5. It provided the element of credibility so important in providing community-related information to users: depending on the source, users and professionals trusted completely the information provided and given.

Professionals added that many users enquire on the source anyway, and that the more knowledgeable the user was, the more likely that s/he would require the source of the desired data. Also, when replying enquiries by phone, it was commonplace to hear the question *'where did you get this piece of information from?'*, which could be answered by looking up this data in ALIS.

Three statements are worth quoting in full:

* *'Very important and I would define it as anticipating the demand from the user with a firm footing on the library resources and limitations sometimes' (Library A);*

* *'This is a clear example of active referencing, and from my point of view, the direction utilitarian information services should take in public libraries so that users are given all data they require or how to get a certain piece of information quickly and efficiently. In a service that runs against the clock, the less time required to give reliable information to users that can be checked and used on the spot, the better' (Library B).*

* *'It is like to kill the snake and show the spear' (that did the job, in general with the snake*

wrapped around it), a popular Brazilian saying for showing irrefutable evidences.

8.2.5 ASSESSMENT OF ALIS REFERRAL FRAMEWORK

Referring users to local sources of community-related data external to the library was considered by Libraries A and B not only appropriate, useful and suitable, but also essential and indeed the current practice when data cannot be found in the library.

Referring to external organisations other than local ones was considered appropriate with reservations. For organisations or bodies with some impact/profile recognised by all, it was considered useful to have their addresses for referral, such as in the case of

1. Foreign embassies, as most of them are located in the federal capital Brasilia;
2. International bodies that have offices nationwide, such as Amnesty International, UNESCO, United Nations, UNICEF, the Red Cross, etc.;
3. Educational opportunities not available locally.

One library added that many queries regarding non-local organisations were education related, i.e. how to obtain a scholarship or job-related for career development, and she quoted a recent example of a young doctor looking for a graduate course on neck surgery in the British Isles.

Librarians who showed reservations about including non local organisations justified their positions by saying that it was difficult to precise which external local organisations to include and/or predict the ones users would enquire about.

8.2.6 FEASIBILITY OF INFORMATION REPACKAGING

Practitioners expressed next their views on the feasibility, soundness and desirability of ALIS conceptual framework:

Libraries A and B considered information repackaging desirable and an excellent idea, similar to their current practice of collecting and extracting information on up-to-date topics from reliable sources (newspapers, magazines, books, encyclopaedias, etc.) and filing the data in folders or collating in the card catalogue itself.

Reservations on the feasibility of information repackaging in their environments were related to the design of a service policy for:

1. Surveying users' queries in order to find out areas of community-related information worth applying ALIS framework to;

2. Locating authoritative public domain and copyright-free sources on which to base repackaging;

3. Hiring/Training existing personnel for this service, and

4. Monitoring the life cycle of entries, definitions and referrals so that data is always kept up-to-date.

8.2.7 FEASIBILITY OF THE REFERENCE FRAMEWORK

The reference framework proposed as a self-defining and referral device to existing wider library resources was considered useful and ideal, because by defining a community-related information concern/entry based on authoritative sources and referring it to existing wider library resources, elements of credibility and reliability for the data were provided to user and staff alike.

In terms of feasibility, two important issues were raised. Firstly, the library catalogue should not be reproduced in the field '*In our Library*' of the A-Z community-related databases, which should only contain the most up-to-date and best layman resource(s) on the entry. Secondly, an internal service policy should be enforced so that community-related data can be systematically monitored for updating/deletion purposes.

8.2.8 FEASIBILITY OF THE REFERRAL FRAMEWORK

Referral to external organisations other than local ones was not considered very feasible by professionals in both libraries. They stressed the point that it was very difficult to know which non local organisations to include or predict which non local organisations users would enquire about.

Non local organisations should only be included if they were representative enough to justify the effort. One professional suggested a separate file for non local organisations, but in practice this would not be recommended.

8.3 RESOURCES FOR COMMUNITY-RELATED INFORMATION SUPPLY

Results collected for resources available for community-related information supply in Brazilian public libraries aimed at investigating how far the prototype design mirrored and/or suggested solutions to improve the current community-related information practice in Brazilian public libraries. Data for sections 8.3.1 to 8.3.5 was collected in the preliminary in-depth interviews with practitioners.

8.3.1 AVAILABILITY OF RESOURCES

Libraries A and B declared they had the following resources for community-related information supply:

1. Traditional reference sources, i.e. encyclopaedias, dictionaries, phone directories, statistics, yearbooks, government publications stored in the services visited for Libraries A and B;
2. Their libraries' collections and
3. The services' own files.

Library A added that its library collection was an initial reference tool, but most resources for community-related information supply were informal and produced by them.

It is worrying to see that information in Brazil still circulates mainly by word of mouth and personal recommendation, as stated by McCarty (1982:) and Negrao and Bertonazzi (1990). The latter states that the situation in rural Africa is similar to that in some rural areas in Brazil, due to the fact that oral culture also prevails in Brazil, where literacy rate is around 73.4%.

8.3.2 EXISTING COMMUNITY-RELATED INFORMATION FILES

Libraries A and B have their own local community-related files as labelled folders containing all data they can gather on the topic concerning the label. Thus, a folder may contain a directory of local organisations made by the library, newspaper and magazine clippings, photocopies, material prepared by the library, ephemera, etc. on the subject matter. Library A is starting to use a word processing package to organise some of its folder files and to produce corresponding indexes.

Folders are organised in alphabetical order by subject. None of the libraries followed a classification scheme or thesaurus for indexing and classifying their material. The reasons given were that they preferred to use terms users would search for and identify more easily. Library A added that they tried to attribute as many terms as necessary for retrieval purposes.

Printed indexes for the local resources folders are produced monthly by Library A using a word-processing package. These indexes are distributed to branch libraries in the municipality. Library B did not specify the periodicity of its index to community-related information folders, mentioning it does so according to the need and time available.

Folders are shelved and clearly labelled in both libraries. Library A has a colour code for subjects. Wall posters indicate the range of community-related subjects and services available. Library B has red folders with black lettering 'INDEX TO UTILITARIAN INFORMATION' by the Enquiry Desk, catalogue and reading desks.

Contents of existing folders were the following:

1. Directories of local organisations, government agencies and/or services with addresses, phone numbers and services provided (Libraries A and B);
2. Folders containing ephemera advertising local events and cultural activities (Libraries A and B);
3. Individual folders for biographies of local government officials identified by the label 'Government Officials - Municipal / State / Federal level' (Libraries A and B);
4. Individual folders containing biographies of local personalities (artists, writers, etc.) in alphabetical order by most well-known name/pseudonym (Libraries A and B);
5. Folders containing daily economical data, such as the value of the US dollar, amounts for daily reference taxes issued by the government to pay for bills, monthly minimum salary/wage, etc. (Library A);
6. Folders for personal identification and basic documentation, containing addresses and what to bring along to have a document issued (Libraries A and B);
7. Folders for up-to-date topics that could not be found in the library collection, such as AIDS, green issues, the Amazon forest, etc. (Libraries A and B);
8. Folder for 'local curiosities', containing odd pieces of information requested by users, such as the address of the first escalator in the city of Sao Paulo, a query they received and found the answer in an old phone directory (Libraries A and B).

Folders in both libraries are accessed by users upon request to the officer on duty.

Although Library A is using a word processing package to make some of its files, users have access only to printouts stored in the folders. Professionals in Library A said they investigate the folders first and only then check their library and their own collection.

8.3.3 REPACKAGING OF AVAILABLE RESOURCES

To check on the existence of any form of information repackaging of resources, professionals were asked whether the material available or used for community information and local studies supply could be given as they were to users or needed to be first altered or simplified.

Library A said it works on the material it collects, naming four stages: data collection, indexing and classification by as many headings users may require and data presentation in the folders. Special concerns were recorded about filing information in order to present it coherently and logically as to establish a follow-up. Many times coloured markers were used to this end in the case of clippings on a determined topic collected from newspapers, periodicals, etc. Examples were given to justify this statement:

1. Alterations in opening hours of local official bodies may have been obtained informally (word of mouth, etc.) and should be checked, by phone preferably;
2. Folders on personal documentation should explain in detail the need for each document, state their use in simple terms, where to go to and what to bring along in order to apply for the document or personal identification desired. It was also stated that certain important welfare questions refer to this folder, such as in the case of work-related injuries or death of a relative, when people are required to present the correct documents to apply for a benefit;
3. Data on local events of relevance may have been obtained by listening to a morning radio programme, so that must be checked in the papers or with the organisation and filed properly;
4. Odd or unexpected queries required clarification and sometimes small definitions for a quick lookup or 'emergency' purposes;
5. Definitions and full investigation of existing library resources on an up-to-date topic compiled in a folder were sometimes high on demand. A recent example was regarding the term 'impeachment', with no equivalent in Portuguese language, that was very much searched for in the library due to the impeachment process the former president of Brazil was duly subjected to on charges of corruption. 'Anticipating the demand' for such data, Library A searched and compiled existing resources on this subject, and this was a very sought after folder.

It was mentioned the need to define less complex expressions, i.e. 'Programme 6.30pm', a

series of concerts and public events at this time of the day free of charge that take place at municipal theatres or local universities, and whose definition could not be found elsewhere.

Library B said there was a need for simplification, clarification or an intermediation mechanism not only for users, but also for the professionals when replying or negotiating the best answer to a query. In the specific case of this library, it was stated that many of their users were primary and secondary school children, who demanded straight 'whats, whys and wherefores', and that many times equally straight answers were hard to come by in the collection. This was one of the reasons they based so much their local resources files in newspapers and special interest periodicals in the absence of updated encyclopaedias and major reference works. The language of quality newspapers and periodicals was easy to understand, accessible to all and the source was considered reliable.

8.3.4 USE OF WIDER LIBRARY RESOURCES

To check on the use and perception of wider library resources, professionals were queried whether they found posters announcing dates of local vaccination campaigns, displays for a local studies activity, etc. capable of supplying data for queries on community information and local studies.

Unanimously, librarians agreed that these wider library resources constituted sources of community-related data as important as the formal ones, and the strongest statement was:

'They constitute sources of information as important as any other' (Library A).

Agreement reached by both libraries highlights again the fact that community-related information supply in Brazil depends largely on unconventional/information sources in the lack of current traditional and formal ones.

8.3.5 CO-OPERATION WITH EXTERNAL ORGANISATIONS

Issues involving co-operation and links between public libraries and external information providers were relevant to the present research firstly because community-related information services involve a great deal of referral to institutions, individuals or sources where help can be found when the library cannot provide the reply to a query.

Secondly, the set-up and maintenance of community-related information systems require that some form of co-operation is established among libraries and external information suppliers so that all parties can benefit and users alike.

Edmonds (1987:27) states this clearly for British public libraries when she says that '*public*

librarians based in a local community often develop relationships with an enormous range of community groups, clubs and associations.' It is therefore clear that any successful community-related information system retrieval system, be it automated or not, require the continuous mediation between the library and the community. Any such system that does not relate to users and institutions in its community is bound not to be effective for long.

Library A is pursuing active co-operation links and information exchange with external information providers and the community as a whole. They remarked that this is a steady and slow process, because agreements for information exchange require careful planning and continuous action with all parties concerned. Time and personnel, two requirements they are chronically short of, are needed. In order to cope with some of these constraints, they are trying to involve the library's Public Relations Officer(s) to help in this respect.

Co-operation links so far established by Library A were the following:

1. Co-operation with major special libraries, i.e. the library of the Federation of Industries of the State of Sao Paulo (FIESP), the most important federation of its kind in Brazil, and the Library of the Municipality of Sao Paulo (Biblioteca da Camara de Sao Paulo) mainly for information exchange, although some resources sharing was mentioned;
2. Co-operation with public organs to whom Library A is directly or indirectly linked. As Library A belongs to the Public Libraries Department of the Culture Secretariat of the municipality of Sao Paulo, it has worked closely with other secretariats. Two products of this co-operation where the ISC took a leading role were the joint publication with the Planning Secretariat of the 1992 Guide to Public Services of the city of Sao Paulo (Guia de Servicos Publicos da Cidade de Sao Paulo 1992), a directory of public services of this major Brazilian city, and The 1992 Calendar for Events Planning (Calendario para Programacao de Eventos), published by Library A, containing data on events, publications, cultural activities, alphabetical lists containing short biographical data of personalities to be celebrated during the year, with corresponding sources for the data collected;
3. Regarding co-operation with external information providers in the community, Library A mentioned an information exchange agreement with Editora Abril, the most important publishing house for quality and general interest periodicals in Brazil. Library A stated that Editora Abril sends all their publications to them, and the Information Service for Citizenship is referred to by Editora Abril in case of users' queries. They do this service on request nationwide.

Library B, on the other hand, co-operates actively for information exchange and resources

sharing only with branch libraries within its Regional Public Library System, which includes all public libraries in the State. It also mentioned involvement with other local libraries and the Faculty of Librarianship of the Federal University of Rio Grande do Sul State, although no formal agreement binds them.

Finally, Library B declared that it works with the local history museum in a cultural activity called 'The Library Walk' in the following way: school children who visit the Julio de Castilhos Museum with their tutors and parents are encouraged to visit the library (both museum and library are in a walking distance to each other), and many schools take part in this double-deal package.

Overall, findings showed the professionals' awareness of the concepts underlining the prototype, large dependence on informal and/or library-generated files for community information supply, incipient level of automation and low involvement of libraries with external information suppliers in the community.

8.4 USE OF ALIS

In what follows, results are presented for the professionals' appraisal regarding the use of ALIS prototype. Data for section 8.4.1 to 8.4.7 was collected from the individual self-administered questionnaires on system use and performance answered by Brazilian practitioners.

8.4.1 ENTRIES AND DEFINITIONS

Entries and definitions were considered clear, simple, objective and direct, capable of being understood by the average library user and work as an initial reference tool to wider library resources. Justifications were the following:

1. Entries and definitions are clear and adequate as an initial reference tool because they proceed through levels of understanding and place the entry in their most immediate and relevant context for the general library user;
2. Definitions and concepts are useful, because some concepts may be known by some but not all library users. They can also be of great help in the cases of ambiguous or culture-bound terms, such as popular names for illnesses and ailments in the A-Z to health concerns database;
3. Entries and definitions can be useful to identify concepts and negotiate the best reply to users.

No suggestions were given to improve entries and definitions. There was a comment that they could be the seed for glossaries and specific thesauri for community-related data as the work proceeded. This librarian (Library A) stressed that entries and defining terms should be monitored, especially for retrieval purposes.

8.4.2 ENTRIES, DEFINITIONS AND REFERRAL ADDRESSES

Unanimously, entries and definitions with referral addresses were found to reflect community-related information needs. Librarians considered them extremely useful, suitable and desirable. This was expected, because referral is current practice in community information and local studies supply, and Brazilian professionals agreed this was also good practice. One librarian in Library A added that this was '*especially useful in the case of answering telephone or walk-in queries*', which require quick and efficient replies.

No suggestions were made to improve the form referral addresses were presented in ALIS at this point. There were concerns about the inclusion of more fields for referral addresses. The software can easily meet this requirement. The maximum number of fields per record in Micro-Isis version 3.0 is 200. ALIS just used 10 fields per record for the A-Z databases, so there are still 190 fields for referral addresses to be used per record.

8.4.3 PRESENTATION OF REFERRAL TO WIDER LIBRARY RESOURCES

Librarians in Libraries A and B considered this one of the most important features of the prototype. The presentation of this device as the field *In our Library* was considered direct, simple and very useful, because it supplied reliable existing sources for each community-related information concern, and credibility in the source is a fundamental component in the provision of community-related information. This device was also considered ideal to deal with inquisitive users.

Suggestions to improve the way reference to wider library resources were the inclusion of classmark for traditional resources, i.e. books, as this information could be then passed on to the appropriate form or by phone so that the material would be ready for the user at the respective library section when the user arrived there after having been to the community-related information service, and a code should be designed to state the kind of material and specificity/coverage

Both libraries were concerned with the growth of this field and whether it should be presented as individual fields for each resource referred to instead. Professionals were reassured that the software could cater for either requirements, because it allows the maximum of 200 fields

per record and modifications are straightforward by following the menu-driven instructions.

8.4.4 SEARCHING ALIS

Librarians seemed not to have had many difficulties to search the prototype. Searching was found to be direct by following the menu-driven instructions. Reservations were expressed about the fact that by pressing **S** for searching in ISISRET - Information Retrieval Services, the search menu disappears and the screen goes blank, only flickering the message **Search expression?** to the user. The user then has to type the desired term or expression sought after and remember the instruction to press **D** for display to show search results. This user interface limitation was considered a major problem to search ALIS.

Highlights of searching were the following:

1. Browsing the databases from the beginning or any other record number was considered very useful, especially to give inexperienced users a 'feel' of the system;
2. Access to terms dictionary to check/identify keywords and indexing terms;
3. Access to the databases via the main menu was considered advantageous, although it was mentioned that it required patient follow-up of instructions from the users' standpoint;
4. The default field ***** PRESS X TO EXIT ***** was considered very useful, because it provided users with a help instruction on how to go back immediately to the initial menus and as such gave the inexperienced user reassurance that there was always a 'way out in sight';
5. Definitions as free-text, with terms highlighted by the use of triangular brackets, which were also used as an indexing technique (Technique 2 to) store terms in the inverted file, serving jointly as a display and search device. There were, however, concerns with establishing a certain control of keywords in context as the system grew.

Use of Boolean operators did not present a problem. Library B only stressed the need for an ongoing user training scheme in the library for first time users.

8.4.5 USER INTERFACES

Practitioners approved of the staff interfaces, but wanted a much improved general library user interface. They mentioned the following in particular:

1. To define the contents of the databases in stronger terms in the general library user interface. Users normally look for answers to basic problems when they require community

information data, so that term 'concerns' should be replaced by 'problems', which is stronger and more easily recognisable by users;

2. When the user presses **S** for searching the desired data, the screen goes blank, just displaying the message **Search expression?**, prompting the user to enter his/her search terms. This feature was not considered to be much user-friendly, especially for the inexperienced or first time library user.

Both libraries advised ongoing work in the design of an improved end user interface.

8.4.6 DISPLAY FORMATS

Librarians in Libraries A and B found ALIS display formats user-friendly, attractive and straightforward.

Five out of six librarians would leave the displays as shown in ALIS, and the one who disagreed would just display the keywords field to users, so that they could help in the growth of the system and control of indexing words by suggesting their new indexing terms or making corrections when need be.

Praise was given to the field showing the way back to the main menu shown by default in all records, and to the use of triangular brackets to highlight a term or expression and index it in the inverted file at the same time.

Librarians in both libraries were encouraged to create their own formats for the database. Those who tried (3 in Library A and 2 in Library B) found the software's formatting language complex, and it is rightly so.

Finally, concerns were stated about the fact that displays are character-based only. Indeed, at present Micro-Isis is a character-based software only.

8.4.7 DATA ENTRY

Data entry was not considered very problematic, although professionals mentioned some software-bound problems.

Highlights of data entry in ALIS were the following:

1. Data modification was found to be straightforward by following the menu-driven instructions of ISIS-ENT - Data Entry Services. Ease of corrections was rated as very important due to the fast-changing character of reference/community-related data, which

requires constant change, updates and removal;

2. The possibility of entering default messages, i.e. data that remains constant throughout the database, was found to be economical and advantageous to save time to enter repetitive data.

Disadvantages were the following:

- a. Lack of spelling checkers for database contents;
- b. Impossibility of viewing different records at the same time on the same screen so that comparisons and corrections with other records can be made;
- c. Instructions for data entry for fields and subfields were helpful and adequate, but their display was not direct. This is a software-bound problem: to display help messages, one must first press **M** to modify field of the record concerned, go to the desired field, and then press **F1** to display help message for that field. In order to overcome this drawback, librarians suggested some practical measures to cope with this disadvantage, such as to place a note or warning message in capitals by the terminal where data entry is carried out containing instructions on how to access help messages.

Finally, the issue of data import/export from other databases was raised. Librarians were concerned whether their automation packages in use in the libraries could conform with Micro-Isis and ALIS. The software does have a module called ISISXCH - Master file services which provides master file backup/restore functions, as well as import/export facilities for interchanging data with other systems, including mainframe computers.

By following the menu-driven instructions for export/import of data in Micro-Isis (ISISXC - Master file services) this requirement of Brazilian practitioners can be met.

8.5 QUERIES COLLECTION

Community-related information queries were collected in Libraries A and B in Brazil to check whether real users' queries could be answered (or not) within ALIS framework.

In Library A queries were collected from December 7th-11th 1992 and from December 14th-24th in Library B. Most queries were collected by the researcher according to the form designed to this end. Nevertheless, while interviews were being carried out, staff of the services visited kindly filled in the queries collection form for this researcher. Community-related information queries collected in both libraries are enclosed in Appendix O.

8.5.1 ANALYSIS CRITERIA

Queries collected were analysed according to their suitability to fit in (or not) the broad categories established for the present prototype. These broad categories are:

- 1. Health, jobs/education and legal-related queries;
- 2. Existing wider library resources, i.e. the collection;
- 3. Local/non local organisations and/or institutions, and
- 4. Local studies-related queries.

Queries not belonging to categories other than the above were the ones that would indicate the limitations of the model proposed in ALIS, and encourage debate for implementation and further action.

8.5.2 RESULTS

Table 8.5.2-1 can be drawn for queries collected in libraries A and B according to the broad subject areas introduced in Section 8.5.1.

Table 8.5.2-1 Number of queries collected in Libraries A and B according to broad subject areas

Subject Areas	Library A	Library B
Addresses of organisations	13	6
Legal matters	9	7
Local studies	8	5
Library collection	7	14
US dollar value	6	3
Education/jobs	5	7
Health	4	3
Old/new newspapers	3	2
Judiciary gazettes	1	5
Events in the library	1	2
Other	5	6
Total	62	58

Analysis of the data introduced in Table 8.5.2-1 Queries according to broad subject areas allows for the following tentative conclusions:

- 1. Most queries received by both services visited could have been replied within the framework proposed for ALIS, because 46 queries (or 74%) received out of 62 in Library A, and 42 queries (or 72%) out of a total of 58, fell into the broad categories established for the present prototype, i.e. addresses of organisations/institutions, referrals to wider library resources, health, legal, job, education and local studies-related queries;
- 2. Queries which could not have been dealt with within the present prototype framework

were the following:

- a. Value for the US dollar, which has become a parameter for business and legal dealings in a country whose currency is weak and with inflation rates approaching the four digits annually for the last five years;
- b. Requests related to old/new newspapers and judiciary gazettes;
- c. Events in the Library, and
- d. Other requests of a more general and/or specific reference character, such as the length of the longest street in town, national anthems of specific countries (musical scores), enquiries on bibliographies and biographies of local personalities.

Although the sample of queries was very small due to financial and time constraints faced by the researcher, it is possible from this sample to draw a tentative conclusion based on the collected data that ALIS framework could be used to reply users' queries in both services visited.

8.6 SYSTEM IMPLEMENTATION

In what follows, results of the individual interviews with public librarians in Brazil on ALIS implementation are presented.

8.6.1 ADDITIONAL COMMUNITY-RELATED DATABASES

Professionals suggested that the following databases should be added to the existing ones in ALIS:

1. A directory-like database called AZAID/AZSOCIAL similar to CITYOR containing aid agencies and social services available not only locally but at state and federal levels. Justification was that aid agencies, their function, services, addresses and contacts should be made very clear to users so that they could refer to the appropriate agency/organ and exercise their rights to obtain aid/services provided;
2. A database for learning and educational opportunities, with emphasis on continuing education and courses of general interest, hobbies and sports. Justification was that a course that started as a past time could well become a life-long major interest and source of growth for all ages;

3. A personal documentation file, with specific data on documents, personal identifications and paperwork needed or required to be a citizen in bureaucratic Brazil. Data on birth and wedding certificates, driving licences, naturalisation, description of documents needed to apply for a social security benefit, etc.;

4. Two databases, one for primary and the other for secondary school children respectively, containing surveyed topics of their interest. Justification was that these constitute the majority of users in both libraries.

Professionals stressed that care should be taken when suggesting additional databases due to the specificity and workload demanded by ALIS conceptual and practical framework. They mentioned the need to survey users' main queries as a pre-condition to the design of databases which would then reflect users' community-related information needs.

8.6.2 CHANGES IN ALIS DESIGN

On changes to be introduced in ALIS, statements were unanimous in that there was not a case for changing but adding to ALIS design.

Librarians saw no reason to change the subject areas chosen for community-related information supply in the present project, would leave them as they are and continue to feed new entries.

To prod more deeply into this question, the researcher asked 'what would you take out of ALIS, if you were going to use it right now in your service?'. Four out of six librarians would cut out the local studies module: they would pass it on to their colleagues in the local/state section of their libraries. Justification was that although the local studies module is an interesting application, their service had other priorities which should be tackled first.

8.6.3 DESIGN CONSTRAINTS

Librarians in both libraries stated that LIBRY, the experimental catalogue designed for ALIS would have to be enhanced in order to fit in the automated cataloguing requirements already followed by them.

They appreciated some aspects of LIBRY to be added to their own online catalogue, i.e. statement of media packaging of the resource, abstracts, the field containing a note/observation to draw the user's attention to a certain aspect or resource considered relevant and the specific location of the information item in the library.

Still in relation to cataloguing, the issue of Micro-Isis compatibility with the automation packages in use in the libraries was raised. Concerns were recorded about not duplicating cataloguing, and to adapt existing practice to a community-related information framework as presented in ALIS.

The last design constraint pointed out by Brazilian professionals was the lack of a thesaurus programme to control indexing and optimise retrieval.

8.6.4 USE AND OPERATIONAL CONSTRAINTS

Libraries A and B were very concerned about use and operational constraints, and debated them on two levels: use and operation of the prototype by staff and general library users.

From the professionals' standpoint, they mentioned that all staff should know how to use and operate the prototype especially for searching (compulsory) and data entry purposes.

From the general library user's standpoint, Library B insisted on maintaining user training, assistance and mediation by an experienced professional. This was not an issue for Library A, and perhaps this can be attributed to the fact that users' access to this library's computers is long established.

8.6.5 PERSONNEL

Libraries A and B discussed personnel in terms of skills and profile required to maintain a system like ALIS. The following constraints were raised:

1. Difficulties to hire subject subject specialists to repackage information within the framework suggested in ALIS in the lack of suitable copyright-free sources of data;
2. Establishment of a training scheme in the services so that information repackaging could be learnt/practised on the job;
3. Need to hire professionals with good keyboard skills to set up the system in the first months;
4. Need for a professional with good communication skills by the public access terminal to help users when need be;

Libraries A and B mentioned that they would have to re-schedule and plan their activities to conform with automation as proposed in the present project. In the case of not being able to hire new staff, shifts would have to be programmed so that all reference personnel did have

their share in maintaining the system.

8.6.6 FINANCIAL, PHYSICAL AND MATERIAL RESOURCES

Constraints related to financial and physical/material resources were considered the major hurdle by both libraries. Results pointed out the following constraints:

1. Bureaucracy in budgeting, applying and invoicing for the acquisition of material;
2. Uncertainty about actually receiving the desired resource or funds due to change of priorities and cuts in expenses;
3. Difficulty to plan ahead due to inflation rates in Brazil.

Despite these difficulties, Libraries A and B stated they enjoyed privileged status with their governments, as illustrated by the fact that both had recently been redecorated (Library A in 1992) and fully restored (Library A in 1990).

8.6.7 SETUP, MAINTENANCE AND MANAGEMENT ASPECTS

Professionals in Libraries A and B showed concern about set-up, maintenance, management and dissemination issues, especially because they have branch/minor libraries under their jurisdiction. They stressed that the following issues should be raised:

1. Outline of a detailed plan for community-related information supply, specifying goals, tasks and professionals scheduled for information repackaging, data entry, data modification, monitoring of wider library resources to be included in the system and user assistance;
2. Librarians in both libraries agreed that all service personnel should learn to carry out the system operations from the outset. Both libraries would shift personnel according to a weekly schedule so that professionals could be involved in all aspects of the work;
3. Librarians in Library B mentioned they might prefer initially to hire a professional with good keyboard skills to speed up the setting up of the system and have it operational for as soon as possible.

Regarding set-up there was one interesting remark by Library A. The professional suggested that it might be more useful to start a project like ALIS in a small branch library as a pilot project, wait for the idea to catch on and then apply it at a macro level, including the major libraries. The question is whether in practical terms small libraries may have material, personnel and the public to justify such an enterprise.

Regarding management and maintenance, distribution and exchange of community-related

data to branch libraries were widely discussed, as both libraries are heads of their municipal/regional public library systems. Advantage should be taken of the already existing links so that community-related information initiatives could be passed on to minor libraries. It was mentioned that branch libraries might not have computers in their premises, and that a plan for data collection and exchange should be drawn so that minor libraries could set-up their own non-automated files within the same structure of automated ones. There was division whether the head libraries should process in the computer all data from branch libraries without computers, but this may well be the case, as data should be preferably processed in a machine-readable format somewhere.

Publicising and marketing issues were raised with the same measure of caution and hopefulness. Both libraries have a Public Relations Officer who could be used for this purpose. There were also realistic remarks: librarians wanted to see the system working properly with a substantial amount of records before 'announcing it to the four winds'.

Finally, two parting comments on constraints are worth quoting in full:

** 'Advantages depend on us, on how we are going to use the system and make it grow as we get familiar with using and improving on it. Disadvantages don't depend on us to be solved, but on financial and human resources which may be difficult to allocate or find' (Head of Service in Library B);*

** 'The major constraint you will have to face when presenting your work is motivation. If you have people motivated and identified with the service, you will eventually get the infrastructure to run it. Our service here, as your project, are pioneers. There are people who disagree, who think this service is not feasible, that it is not worth doing and not within our scope to render it. I consider, thus, the major constraint you will have to face is to sell the need for the system, to sell you idea' (Head and founder to the ISC in Library A).*

These two parting comments reflect the high professionalism, resilience and vision of Brazilian public librarians working in the yet to be unacknowledged field of community-related information.

8.6.8 OVERALL ASSESSMENT AND PILOTING

Firstly, professionals were asked whether the advantages of ALIS outweighed its shortcomings. Unanimously, librarians stated that ALIS advantages outweighed its shortcomings, justified by the following:

1. ALIS was the first automated application for the systematic organisation of community-related information practitioners had the opportunity to experiment, test and issue an appraisal about. This was considered a rewarding and challenging experience, which they hoped to continue participating in the future;

2. ALIS was considered 'the embryo', 'the tip of a thread to be unwound', the beginning of a much wider work on community-related information supply in Brazilian public libraries. Quoting a Library A professional, 'the seed should now be watered and well looked after , but the prospects looked good'.

3. It provided a framework for discussion of crucial issues for community-related information supply in Brazil, such as information repackaging, use of wider library resources and referral in a systematic way;

4. ALIS encouraged the professionals' awareness of feasible computer applications for the field.

On piloting ALIS in their libraries, professionals showed a mix of caution and hopefulness.

Libraries mentioned that the decision of piloting the prototype did not lay in their hands only, but on submitting this proposal to the Library Board and their local authorities. Nevertheless, both libraries stated that the usefulness of the prototype was worth the effort of submitting such a request.

To Library B, the idea of piloting ALIS was especially appealing because much data for the prototype was based on actual data for that city. Thus, not many modifications were required and the prototype could be operational in a short period of time in that library.

Summing up, results of evaluation of ALIS prototype by Brazilian public libraries and queries collection presented in this chapter were positive to reaffirm our commitment to the difficult task of promoting the systematic organisation of community-related information in Brazilian public libraries.

CHAPTER 9

DISCUSSION AND IMPLEMENTATION ISSUES

This chapter presents the discussion of evaluation results obtained in Brazil, the analysis of users' queries collected in the libraries visited and the discussion of implementation issues for the ALIS prototype.

Firstly, constraints of the evaluation exercise in Brazil are raised. These constraints could not be overcome, because they relate to Brazilian circumstances, and should be taken into account before discussing evaluation results.

Secondly, the ALIS prototype is analysed in its conceptual framework, design and functionality, data entry, searching, display formats and user interfaces.

Thirdly, users' queries collected in Brazil are analysed to verify the present model's suitability to handle real community-related information requests.

Finally, implementation issues are introduced and justified.

9.1 CONSTRAINTS OF EVALUATION IN BRAZIL

Before we proceed to discuss evaluation results and system implementation issues obtained in Brazil, two major constraints of the evaluation exercise should be addressed. These constraints could not be overcome, because they relate specifically to the context of automation, community information and local studies in Brazil, which, according to evidences

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of Chapters 3 and 5, are in the initial stages of development.

The first constraint relates to the fact that ALIS was the first automated prototype Brazilian professionals had the opportunity to use and evaluate. The professionals' experience with computerisation and databases was also very low. Only one of the services visited had started automating its services by using a word processor to organise their community information folders. Perhaps were Brazilian professionals more experienced in library automation and community-related information supply, their evaluation findings would have been more objective. Nevertheless, public librarians in Brazil showed much interest, good will and acknowledgement for having being consulted to take part in this stage of the present research. Indeed, there was a genuine effort on their part to respond to the evaluation exercises using the best of their abilities.

The second constraint is that ALIS could not be tested by end users in Brazil. Although the request was made to both services visited, none of the libraries could spare a terminal so that ALIS could be used by the general library user. Libraries did supply a terminal to test ALIS, but this was restricted to professionals only. Reasons given by Library A, which had a computer in the service visited (but also not available to the end user) were that the computer had to be used by the service only for the time being due to the amount of work it was supposed to perform. A dedicated terminal to test ALIS was an impossible concession in the circumstances. In Library B, who had just started automating its procedures, there were no terminals available to the public at the time of the evaluation in Brazil. Therefore, although ALIS was initially intended to be a search tool for the general library user as well, the professional, working as a primary source of community-related information data, a gateway for the general user to explore wider library resources and access data on contacts especially in the community, it could not be tested whether the prototype would be suitable to respond to the community-related information needs of Brazilian general public library and approved by them.

The collection of real users' community-related information queries in both services visited in Brazil, nevertheless, tried to obtain an indication whether the system could respond to real users' concerns according to the broad subject areas chosen for this project.

9.2 ANALYSIS OF ALIS DESIGN

9.2.1 CONCEPTUAL FRAMEWORK AND SYSTEM DESIGN

A serious effort was made not to separate the conceptual framework from the actual system design so that ALIS became a vehicle to demonstrate the objectives outlined for this research.

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Public librarians in Brazil appeared not to have any problems to understand the conceptual framework and its representation in the structure of the system. Professionals did not present objections to the validity, usefulness and desirability of information repackaging, the reference and referral function as presented in the prototype.

Concerns raised were related to hiring external personnel for information repackaging and implementation issues related to system growth, upkeep and management, and suggestion of another directory-like database for local social services and agencies.

Analysis shows the following:

1. Concern about *hiring external personnel for information repackaging* is understandable, but not entirely justified, because ALIS recommends information repackaging as an in-house activity, preferably performed by available library personnel trained to this end and based on existing resources and/or collection-building of copyright-free sources.

Moreover, within this context, information repackaging can be seen as similar to abstracting and extracting information from authoritative and copyright-free resources. Because it is expected that LIS schools in Brazil have included some theory and practice in abstracting in their curricula, information repackaging appears to be a feasible task that hopefully may not require hiring specialists for the job. Fundamentally, information repackaging as suggested in ALIS should be seen as part of a continuous on-the-job training scheme. Otherwise one of ALIS main aims, i.e. the build-up of an indigenous community-related information capability by Brazilian public libraries would be harder to achieve.

2. *Restricting referrals to organisations preferably to local ones*: this is the practice for community information provision in the UK and the USA, which is made easier by the existence of borough-based public libraries. Nevertheless, in the case of Brazil, the recommendation to include relevant non-local organisation can be argued based on fact that relevant organisations may not exist locally in a developing country of continental dimensions as Brazil, and the public should have the right to know where to contact a non local service. Also, public libraries at present are perhaps the only places in Brazil where local and non local data can be obtained free of charge and with a minimum guarantee of continuity. Evaluation findings showed that well-meaning information services have been opened as an appendix by local quality newspapers and official organs to be soon closed down as part of budget cuts in a country plagued with inflation rates like Brazil.

Thus, the provision of referrals to local and non local organisations should be maintained, although credit should be given that non local institutions should be carefully selected and monitored to avoid unnecessary workload.

9.2.2 STRUCTURE DESIGN AND FUNCTIONALITY

ALIS structure design and functionality did not present problems in terms of understanding and use as far as Brazilian professionals were concerned for entries, definitions and referrals to institutions in the community. Criticisms were recorded on the design of the referral mechanism to wider library resources.

As presented in ALIS, referrals to wider library resources is contained in the field *In our Library*. The content defined for this field in ALIS is free text in order to encourage public libraries to define their own referrals to their wider resources, especially for the cases where a traditional bibliographic reference format may not apply. For example, the entry on immunisation invites the user to check on posters advertising national vaccination campaigns found at the entrance of the library. This may well be a fundamental referral and health information in a developing country like Brazil.

Therefore, as far as design, functionality and structure are concerned, the referral to wider library resources in a prototype following ALIS specifications is left to the ingenuity and individual requirements of each system designer and community-related information processing environment. The principle followed by ALIS is the set-up of minimum standards for helping the user and the professional to locate the resource in the library.

Public librarians in Brazil stressed that the catalogue should not be reproduced in this field, and this is a fundamental issue recommended in the ALIS rationale: referrals to wider library resources should only include the most up-to-date and best layman resources on the community-related entry concerned.

9.2.3 DATA ENTRY

Major points for data entry were the following:

1. Access to help instructions for data entry in fields designed during the database definition is not direct: one must first be in the desired field, then press **m** for **modify** (prompt at the bottom of the screen) and finally press **F1** to display help message (a small window will open at the bottom of the screen, displaying the message). Thus, access to help instructions in ALIS is not direct, and this may be a drawback, especially to train novices to enter subfielded fields, for example;
2. Lack of spelling control of database contents and/or spelling checkers: the literature, however, mentions that spelling control of database contents can be executed with the help of an external program independent from Micro-Isis, such as a word-processing package with spelling checker (Nieuvenhuysen, P. 1991). It is therefore possible to attach a spelling

checker to Micro-Isis, although this was not attempted in ALIS;

3. As proposed in ALIS, data entry may involve frequent data import either from the existing library catalogue or from exchange and co-operation with branch libraries and/or local organisations, as well as to maintain the open dictionary structure. Thus, extensive training would be required in data import/export operations, contained in the Master File Maintenance Services, ISISXCH.

Still regarding data import for referrals to wider library resources in ALIS, the catalogue should never be reproduced. ALIS guidelines for referrals to wider library resources, i.e. most up-to-date source, best layman work and data of fundamental public interest should be maintained and fulfilled.

4. Impossibility of viewing different records at the same time on the same screen for comparisons or corrections. As it is now, data entry does not have any mechanism offering the possibility of opening smaller screens/windows to view different records at the same time, a useful feature to compare records, make corrections and amendments. On the other hand, there is the possibility of viewing records thematically one by one in sequence as they appear in the Master File, by choosing option *R - edit last search results* so that corrections can be made;

5. In case more than one data entry worksheet is designed, the system documentation must state clearly the names and purposes of formats available. This, however, was not the case of ALIS, which uses only one format for each database in the system.

Micro-Isis version 3.0 contains an option for global changes, called by pressing key *G - Make global changes/checks* of ISISENT - Data entry services. This allows the deletion of records by Master File Number, creation of save file for selected Master File Numbers, check fields for invalid spaces, special record validation, global changes and global string replacement.

Despite these drawbacks, data entry in ALIS is not difficult. Indeed, it is quite a straightforward process by following menu instructions. Modifications can also be easily made. This aspect is fundamental in ALIS, because community-related information may require frequent updates, as entries, addresses and phone numbers, for example, change. The only immediate recommendation is regarding the display of help messages for data entry, which should be made more accessible.

9.2.4 SEARCHING ALIS

To search ALIS one needs to follow instructions displayed on the screen, enter the name of

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the database, the one-key option and the desired data sought after, or search expression. The system also uses Boolean operators (AND, OR NOT, etc.), truncation, combination of two or more search terms with search operators to make complex search expressions, all standard procedures which may nevertheless be unknown or daunting for inexperienced users with no typing skills. Limitations of Boolean searching have long been accounted for cumbersome features of many current user interfaces (Hancock-Beaulieu, 1992). Nevertheless, searching for information in Micro-Isis and ALIS can still be considered an attractive feature of the software, despite some shortcomings.

Specific problems related to searching ALIS are the following:

1. *Search screen problem*: by pressing option **S** for searching the desired database, the screen goes blank, only flickering the message *SEARCH EXPRESSION?* to users. This means the search menu disappears, and although by pressing any key it will appear again, there is no instruction to guide the user. This constitutes a major software-bound problem to which serious attention of UNESCO's Micro-Isis development team should be drawn;
2. *Lack of spelling checkers*, which require from the user the correct spelling of each terms, expressions, authorship, titles, keywords, etc..
3. *Lack of links between system databases*: Consider the multiple directory character of ALIS databases and how they all related in content only with the catalogue. Micro-Isis software does not provide navigational links between the system databases. At present, only one database in ALIS can be searched each time. In other words, presently there is no way the user could expand the access to a health concern (in AZHEAL), e.g. via a windows mechanism, to look up the full reference to a health agency sought after (in CITYOR) and the relevant referred-to resources in the library (LIBRY). to have them displayed in the same screen.

In the literature, Micro-Isis is described as having a powerful information retrieval module, but not a very easy search mechanism for the general user (De Smet, 1994) (Perera, 1992). Indeed, Perera (1992), who analysed in detail Micro-Isis search interface, found that it fares very well with expert users, but no so well with inexperienced ones. Many organisations using Micro-Isis, by the way, are special libraries both in developed and developing countries. Micro-Isis was also developed by UNESCO and United Nations-affiliated institutions, which can be described as specialist information providers.

Positive features of searching ALIS are the following:

- a. If compared with searching options of current library packages available in the market (GEAC, DYNIX, URICA), Micro-Isis offers the advantages of inspecting the system terms

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dictionary, which can be very useful to users, especially for synonyms of search expressions not still found, and free text searching, an attractive feature of Micro-Isis, although free text searches may take long in larger databases.

b. Searching each database in ALIS is made easier because there is a logical framework established for the one key options to search the databases. Database names are mnemonic and represent their contents (AZHEAL, AZJOBS, etc.);

c. The open dictionary framework, the referrals to wider library resources and to organisations in the community are fairly explicit, and designed especially with the inexperienced library user in mind. There are, nevertheless, rooms for improvement.

d. The use of triangular brackets both as a search and highlighting device was considered very attractive. Triangular brackets <...> are used as a sign to indicate indexing technique 2 in Micro-Isis to mark terms and expressions to be stored in the inverted file. In ALIS, they were used not only to index a term for the inverted file, but also to highlight /draw the users' attention to the term or expressions, such as in the case of : <AIDS> is a <STD>, or <sexually transmitted disease>, etc. This mechanism was considered very attractive and useful, as it defines, highlights and indexes important data as one single operation.

Finally, although ALIS was initially intended to be used by professionals and end users alike, for the time being it might be recommended that the prototype be used as a search tool for the professional librarian only in Brazil. As mentioned before, ALIS could not be searched by end users because of lack of equipment availability. Thus, there is no data available on how well it would perform and be accepted by Brazilian public library users. It is therefore recommended that further work is carried out on the responsiveness of Brazilian end users to Micro-Isis search interface. As ALIS and Micro-Isis stand now, it could be very useful for Brazilian professionals to organise, access and search/retrieve community-related information queries. As specialist users, public librarians and community-related information officers would not have problems to pick up the basics of searching Micro-Isis and ALIS.

9.2.5 DISPLAY FORMATS

Display formats in ALIS were considered attractive and appropriate. The following issues, nevertheless, should also be taken into account:

1. Display formats for ALIS are defined by Micro-Isis formatting language, which allows the designer to select one or more specific data elements for display in any desired order, to insert constant text, e.g. for labels, as well to define vertical and horizontal spacing requirements. These are executed by formatting commands that make up Micro-Isis

formatting language.

Although formats are primarily used to specify the way records are displayed on the screen and printer, they are also used to perform specific operations on one or more data elements, such as in the selection of elements for indexing in the Field Select Table. Therefore, knowledge of Micro-Isis formatting language is very important, and unfortunately it may look quite complex for the novice.

Professionals in Brazil who experimented with other display formats in Library A and B found Micro-Isis formatting language complex. Nevertheless, professionals approved of the display format as presented in ALIS. Mastery of Micro-Isis formatting language is indeed a major issue for training and should be emphasised.

On the positive side, Micro-Isis formatting language allows enormous flexibility from the designer's point of view, and even encourages some creativity by the adequate use of spacing, labels, position on the screen, etc.

2. In case more than one display formats are designed, the name and purpose of each one of them should be clearly defined in the system documentation. In ALIS, only one display format was used for each database.

The flexibility to design more than one display format is an advantage, and can be extremely useful for data exchange and the in-house production of ephemera as a by-product of the community-related information retrieval system.

Brazilian professionals complained that displays are character-based only. At present, this cannot be helped, as Micro-Isis is a character-based software only.

Although attractive graphical display devices may be present in modern microcomputers in the developed world, these may not be available in the Brazilian computer market or be far beyond the reach of chronically under-funded public libraries in the country. Graphical display devices are not present in library automation packages such as GEAC, URICA and DYNIX as well.

Also, graphical interfaces have just started to be introduced in library-based applications. Therefore, much research still has to be done for the design of user-friendly graphical display devices for information retrieval.

Finally, as Micro-Isis displays are character-based only, the system can be used in relatively

old computers with a character-based monitor only. These may be most widely available and affordable in Brazil by public libraries. Ongoing research to improve display formats is, nevertheless, recommended to Micro-Isis development team.

9.2.6 USER INTERFACES

User interfaces of a public information retrieval system like ALIS should be user-friendly. Generally, user friendliness is associated with systems which are easy to learn and easy to use, particularly for the naive or novice computer user (Hancock-Beaulieu, 1992). Although a serious effort was made to make ALIS user interfaces easy and cordial to use, much work is still to be done in this area to make ALIS accessible to the wide range of users likely to be using it in a public library setting in Brazil. Indeed, the main flaw of Micro-Isis according to the literature (De Smet, 1994) (Perera, 1992) is the absence of a user-friendly interface for the non-expert user. The software has, nevertheless, a very powerful search language.

ALIS user interfaces are character and menu-based, with separate menus for the library personnel (system interface) and the general library user (end user interface).

Interfaces for the library staff access all Micro-Isis services and follow the standard system menus with slight modifications, i.e. more spacing, use of bold characters and labels for the present prototype.

The general library user interface is a simplified version of Micro-Isis ISISRET - Information Retrieval Services, made of two menus and containing further help instructions for the user. Basically, the first end user menu welcomes the user to the system, shows the names of the databases available and prompts the user to choose the **S** key for **search** or the **C** key for **Change database** followed by the **[RETURN]** key. The system prompts the user to enter the name of the database s/he wants to work with, and this leads to the second menu. The second menu is the search menu, and it enquires the user to choose a one-key option (**S** for search, **D** for display search results, **B** for browse records in the database, **T** for display terms dictionary, **X** to get out of the retrieval module). The main problem with the user interface appears when one chooses the option **S** for search information in the database: the screen goes blank, flickering the message **Search expression?** to the user. As the search menu disappears, the user has no clue on what to do next after entering the expression/term s/he wants to search in the database. In the menu that disappeared, it is written that one should press **[RETURN]** again to display search terms. As it stands now, there is no help for the user in this respect: s/he has to memorise the instructions given in the second menu first. This is indeed a major disadvantage of Micro-Isis and ALIS user interface: it seems not to be aimed at non-expert users.. Brazilian professionals found this aspect of the software very off-putting for the end user.

Public librarians in Brazil also complained that AILS user interface is character-based only, requiring typing skills which may also be non-existent in the inexperienced library user. Unfortunately, one cannot be certain whether Micro-Isis will include graphical capabilities in the near future.

Nieuwenhuysen (1991), nevertheless, reported that Micro-Isis can be combined with Microsoft Windows and application programs, thus Windows can add a graphical user interface to Micro-Isis. This author states that the module MS-DOS Executive of Microsoft Windows 2 offers an efficient way of inspecting and/or printing directories of files in general and with Micro-Isis in particular. The contents of a file can be checked, modified or printed by the user, who can load it into the Microsoft Windows text editor (NOTEPAD) or word processing application (WRITE). Note that some instructions should be included in advance in the initialisation file for Microsoft Windows (called WIN.INI), allowing the package to verify which actions users expect to take place when the selected files have particular extensions.

Much work in the development of user-friendlier interfaces, graphical or otherwise, for Micro-Isis is thus recommended, as this may be a field worthy of further endeavour from worldwide LIS institutions, especially for those bodies concerned with sponsoring public librarianship in developing countries.

9.3 ANALYSIS OF QUERIES COLLECTION AND VALIDATION

Users' queries collected in Brazil were analysed in terms of coverage to check whether they could be replied within ALIS framework, and therefore validated (or not) the present conceptual and practical model.

By breaking down the queries collected in broad subject areas according to ALIS framework, i.e. health, legal, job/education, library resources, referral to organisations, wider library resources and local studies, in Library A 46 queries (or 74%) out of a total of 62 queries fell into the above mentioned areas; whereas in Library B results show that 42 queries (or 72%) out of a total of 58 could have been replied using AILS. Therefore, most community-related queries collected could have been replied within the framework suggested for ALIS as it is now.

Queries that could not have been dealt with by ALIS framework both in terms of coverage and in principles that led to the present prototype design were the following:

1. *Economical data/information*: queries on economical and rapidly changing data such as the daily United States dollar quote, which has become a parameter for business and legal

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dealings in a country whose monthly inflation rates approach 30%, i.e. annual inflation rate in Brazil has had three/four digits for almost a decade. This means that the national Brazilian currency due to its constant devaluation is no parameter for business and legal dealings, such as the purchase or inheritance of property, for example.

In order to have a stable parameter for business and legal dealings, the value of the US dollar is used for the year and day sought after and then transferred to the present corresponding amount in the Brazilian official currency. This was a surprising finding recorded by the present research, one that makes sense considering the chaotic state of Brazilian economics in the last decade. As public libraries keep local papers and economical information is published daily in them, it is logical that the public turn to the only place where this information can be located efficiently.

Analysis therefore shows that dollar quotes may constitute a community-related information service in this sense, because it has legal and business information implications. It is important to point out that the Brazilian equivalent to the *Financial Times*, called *Gazeta Mercantil*, and the Stock Exchanges in Rio de Janeiro and Sao Paulo offer database access to subscribers, and understandably charge high for this specialised service. Thus, the place where dollar quotes can be obtained free of charge may very well be the public library in Brazil.

In terms of the present prototype and further implementation, there is no need to create a special database for the daily US quotes because of the time, effort and accuracy required to enter the data. The current practice followed by Library A, who has this data photocopied from the press and filed in special folders, is sensible, efficient and economical, and should be maintained.

2. Old/new Newspapers: specific requests for old/new newspapers reinforced one of the assumptions of the present research project: the need and demand for locally generated information may be expressed in this search for the only long-standing source of local data, the press. These queries could not have been dealt with by ALIS.

Present findings show that there is a case for public libraries to continue storing and/or keeping track of local and national newspapers in the lack of a national library for newspapers or similar institution to this end in Brazil.

It might be useful in ALIS to include the creation of a directory of local and national newspapers, containing name, data of foundation, date they were closed down, where they can be obtained, etc.

3. *Queries on specific issues of judiciary gazettes:* Every single law in Brazil must be published in the state and/or federal judiciary gazettes. They therefore constitute primary sources of legal information, and are stored by most public libraries in Brazil. The fact that the public ask for special issues of judiciary gazettes show awareness that this information can be found in public libraries, and the commitment of Brazilian public librarians to collect and make this data available to all.

It also points to the need for more legal information services in Brazil. The availability of legal information and free access to it reflects the degree of internal organisation and democratic maturity of a country. A frequently overlooked fact is that a developing country like Brazil may have the legal institutions and bodies of law, which are unfortunately not enough publicised and thus very much unknown to those who would most profit from this knowledge, the information poor. This imbalance is starting to be corrected by the democratisation process Brazil is undergoing steadily, despite economic setbacks, corruption from high-ranking public officers and chronically sky-high inflation rates. The creation of local Judiciary Units, Chambers of Small Claims and Consumers' Rights Councils are proofs of this slow but steady move.

Thus, although queries on specific issues of judiciary gazettes could not have been replied within ALIS framework, it might be advisable for libraries to design a directory of Brazilian judiciary gazettes and where they can be obtained as a referral to users.

4. *Library Events:* queries on library events could be answered by the design of a suitable database called 'Events' or 'What's On', which could be part of the system, but maintained and designed by the Public Relations/Marketing officers/team;

5. *Special queries:* queries on the special/odd end of reference work, i.e. curiosities (the longest street in town), hard-to-get data (musical scores of national anthems), bibliographies of local authors, etc. could not have been handled by AILS. As these queries represent the unexpected and challenging side of reference work, records should be kept on them, perhaps in a database for specialities and future reference.

Finally, despite the differences between the services visited, the striking similarity of results for users' queries collected in Libraries A and B validates AILS design and at the same time opens some issues for further investigation. If public libraries in Brazil are to develop their own community-related information services, monitoring community-related information needs is mandatory. ALIS identified some of these broad areas of community-related information concerns which seem to agree with users' broad needs as verified by queries

collected in Libraries A and B. It remains to be seen whether these concerns are the same for other Brazilian public libraries.

9.4 ALIS IMPLEMENTATION

In what follows, implementation issues for ALIS are discussed in the light of evaluation findings in Brazil.

9.4.1 COVERAGE OF ADDITIONAL DATABASES

Practitioners in Brazil suggested additional databases to be incorporated to ALIS, and these highlight unique aspects of community-related information demand to be met by public libraries in Brazil, according to the following analysis:

1. An A-Z directory for social services/aid agencies at state and federal level in the moulds of CITYOR spells clearly the pressing need for sources of information on social service and aid agencies in Brazilian public libraries. It also implies that there may be no such fundamental directory of community-related resources available elsewhere;
2. A database for learning and educational opportunities, with emphasis on continuing education and general interest activities stresses the need for making available data on educational/skills-related opportunities in the community. AZJOBS was not considered enough for this purpose;
3. A database for information on personal documentation and identification illustrates the importance placed by Brazilian authorities on such documents, perhaps also a remain of the authoritarian and bureaucratic structure of dictatorship. Many such documents were contained in AZLAW (driving licence, worker id, passport, etc.), but a specific database would make this data clearer to users.
4. The two databases suggested, one for primary and the second for secondary school children respectively, containing surveyed topics of their interest, constitute partly the automated version of the current practice of Brazilian public libraries to organise files and folders on up-to-date issues to cater for the deficiencies in the wider library resources and anticipate users' needs. This non standardised form of information repackaging already in use is largely dependent on the ingenuity of LIS staff. This practice is praiseworthy and should be continued, be it in paper or automated form.

It is important to point out that the subject approach and open dictionary character established for ALIS encourages public library's autonomy to define and determine the contents, scope and range of their community-related modules. In ALIS, it was attempted to

outline a minimum set of principles which could be further discussed and implemented. Indeed, the design of new databases for any ALIS-like framework is the domain of practitioners in Brazil, based on their environments, users' studies and perceptions of users' needs. ALIS succeeded in generating such debate, as far as these findings were concerned, although further research is naturally recommended to revalidate the present model's usefulness and desirability.

9.4.2 DESIGN CONSTRAINTS

The major design constraint which was not remarked by Brazilian practitioners is the maintenance of ALIS open dictionary structure, which will require constant use of the module *ISISXCH - Master file maintenance services*. Nevertheless, the open dictionary structure is fundamental in the present prototype to convey information repackaging and the primary reference character of the databases, and thus should be maintained. Also, the A-Z structure was envisaged as an informative, direct and logical framework to be easily understood by the end user, as well as to encourage her/him to suggest new entries for the system. ALIS is seen as an interactive system that is intended to respond and reflect the community it serves.

This is a fundamental aspect of the open dictionary framework presented in ALIS. An open dictionary is expected to grow, and wise community-related information officers will encourage users to suggest their 'own' entries as time goes by. On the other hand, from the professionals' standpoint, the open dictionary structure justifies information repackaging and self-determination for libraries to create their own community-related information databases and systems.

Other design constraints recorded by Brazilian professionals were the following:

1. *Reduced size of ALIS catalogue, LIBRY*: a very justified concern, although it was stated very clearly that the object of the present doctoral project was not OPAC design, but to demonstrate how the existing collection described in the catalogue could also be used for community-related information supply. Thus, the reduced size of ALIS catalogue, clearly stated and justified in LIBRY's specifications outlined in Chapter 7.

Nevertheless, it appears that even at its reduced size LIBRY managed to demonstrate that the catalogue can be used not only as an important source of community-related data, but also as a gateway for professionals and users alike to explore the wide range of existing library resources to solve a community-related information need. This may constitute a fundamental issue for the management of resources of chronically underfunded public libraries in a developing country like Brazil.

In case LIBRY is to be the library's OPAC, the professionals' remark should be taken into full account and LIBRY fully expanded.

2. Improvement for Referrals to wider library resources in the A-Z databases: as presented in ALIS, minimum data were provided on referrals to wider library resources in order to encourage public libraries to create their own referrals and explore their wider resources of all sorts, e.g. authorship/title for a book, referral to a library activity/exhibit, etc. Thus comments to improve this field were expected and welcome.

As there is no intention to suggest a framework for this field and leave it to the ingenuity of professionals who decide to use ALIS, no expansion or further suggestions will be given. It is hoped that Brazilian professionals, who know their collections and users, will find their own ways of expressing their wider resources and make them more available to users and the community as a whole.

3. Lack of a thesaurus program for keywords control: A thesaurus program would indeed constitute an attractive and desirable addition to any information retrieval system, ALIS inclusive, because of the careful way a thesaurus can deal with the indexing language of a retrieval system, formally organising it so that the relationships between indexing terms and concepts can be made more explicit. Nevertheless, despite this desirability, most commercially available library automation packages do not have a thesaurus program, so this cannot be considered a major design constraint in ALIS.

Nieuwenhuysen (1991) reported, nevertheless, that a small additional program has already been developed for the creation and maintenance of a thesaurus. This is distributed with Micro-Isis and can be incorporated in the system, serving as an example of the possibility to add Pascal programs to Micro-Isis, as documented in the software's manual. The researcher, regretfully, did not experiment with this facility in the design of ALIS, but this could be explored in the future.

All in all, design constraints do exist, as shown above. Nevertheless, Micro-Isis still could be used to demonstrate a framework for the systematic organisation of community-related data. Finally, some of the design constraints mentioned by Brazilian practitioners require simple alterations easily carried out by ALIS, i.e. improvement on the referrals to wider library resources, and this demonstrates that the chosen software was adequate for the present research project.

9.4.3 USE/OPERATIONAL CONSTRAINTS

Use and operational constraints identified by Brazilian professionals are shared by the researcher.

First and foremost, all library personnel should be trained to deal with ALIS in all stages, especially for searching (compulsory) and data entry (optional), but all must know the basics of the system. This requirement is fundamental in any library automation plan.

When the software is made available in public access terminals in the libraries, user training sessions and help by the enquiry terminals should become part of the libraries' activities. Although considerable effort was made to make ALIS as user-friendly as possible, large number of first-time public library users, i.e. school children, mature citizens, etc., may require assistance. The location of terminals close to the enquiry desk is recommended so that the officer on duty can be contacted when need be.

9.4.4 LIBRARY PERSONNEL/SKILLS

Personnel skills to design, operate and implement ALIS can be developed, and are indeed to be encouraged within the present conceptual and practical framework. Many of the tasks required to make ALIS feasible are not unknown to LIS training and can be described as follows:

1. *Information repackaging*: involves collection building of copyright-free resources and abstracting from these sources the relevant data. It is important to point out that Brazilian professionals already practice some repackaging when they compile their community-related information folders, so this does not constitute a totally new enterprise for them;
2. *Use of wider library resources*: involves collection and resources management skills. The issue here is to draw the professionals' attention to existing sources of community-related data in the library, especially the non conventional ones;
3. *Maintenance of local resources files*: involves user studies and practice to meet their needs.

In terms of personnel, perhaps the major hurdle is training in library automation. Public library automation in Brazil is still very incipient, but this fact has not prevented enterprising major public libraries to start automation in their environments. Thus, there are reasons to be hopeful that this may not be a major hurdle to be faced for long.

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Personnel training with Micro-Isis can be obtained through IBICT, who actively supports the use of the software. Moreover, there is already a Micro-Isis user base in Brazil, and depending on the town or city, public libraries considering ALIS and Micro-Isis could visit other Micro-Isis users to familiarise themselves and exchange experiences with colleagues.

The most important aspect of training personnel and developing skills to run ALIS is that this is conceived as an on-the-job and continuous enterprise, mobilising all library personnel under the attentive direction of the reference and library automation team.

9.4.5 FINANCIAL, PHYSICAL AND MATERIAL RESOURCES

Considerable effort was put from the outset of the present project to design a cost-effective model for the systematic organisation of community-related information for Brazilian public libraries. Indeed, financial, physical and material constraints were considered the major hurdle mentioned by the libraries that evaluated ALIS in Brazil, whereas a cautious but welcoming attitude was recorded for the theoretical and practical model.

Emphasis on financial issues is clearly understandable if one considers the economical circumstances of a developing country like Brazil and the high inflation rates the country has had for a decade. Nevertheless, financial, physical and material resources should not be a major concern as far as ALIS is concerned.

Firstly, all a public library needs to acquire when considering the use of ALIS is an IBM personal computer XT (or compatible), with 512 Kbytes RAM (recommended 640 kbytes), easily found in the Brazilian computer market. PCs were mentioned by all public libraries that have computers in the premises, and these could be utilised for community-related information supply and ALIS. Thus, the main expenses are in hardware, and this thesis recommends a personal computer, a terminal for the general library user and a printer so that hardcopies of databases content and ephemera can be produced for users or for exchange with other libraries and organisations in the community.

Figures for the acquisition of a PC XT, terminal and printer vary with inflation in Brazil, but libraries that count with a 'Friends of the Library' society or a local computer industry could request help to acquire such equipment.

Secondly, cost to acquire Micro-Isis software is negligible, as it covers only the price of discs and a minimum administrative fee, paid to IBICT in Brazilian currency.

Thirdly, ALIS recommends the systematic build-up of copyright-free community-related information sources. Fourthly, on-the-job training and existing personnel, resources sharing

and co-operation are emphasised throughout the present project for all stages in order to minimise expenses and maximise the use of all resources available.

As the work evolves and ALIS grows, there will be a need for more memory space and terminals, but not at the first moment. These requirements will be naturally defined and decided by libraries in Brazil. Thus, initial expenses do not constitute a major hurdle to use ALIS.

Based on these factors, ALIS is regarded as a cost-effective conceptual and practical model for community-related information organisation and dissemination for Brazilian public libraries. It will, nevertheless, require an invaluable source of indigenous resources available in the country: the commitment of Brazilian public librarians to community-related information supply, their users and the community.

9.4.6 OVERALL ASSESSMENT ON THE SOFTWARE PERFORMANCE

The choice of Micro-Isis for prototyping ALIS was considered adequate and recommended for Brazilian public libraries to set up their own community-related information systems based on the discussion of findings for ALIS evaluation obtained from Brazilian practitioners and in the light of the goals established for the present project.

ALIS succeeded in achieving the theoretical and practical objectives established for this project.

Firstly, it succeeded to demonstrate a feasible and practical framework for the systematic organisation of community-related information suitable for public libraries in Brazil, where the need and resources to this end are yet to be fully acknowledged.

Secondly, ALIS managed to suggest a framework for the continuous build-up of community-related information data based on authoritative and copyright-free sources available. It also encouraged the use of existing resources to the fullest.

Thirdly, ALIS conceptual framework grants public libraries autonomy to define their own community-related information services based on their perceptions of their users' needs and which also encourages co-operation with the community and local authorities;

Software-bound problems stressed by public librarians in Brazil were linked to improvements in the information retrieval module, option **S** for searching, to prevent the screen from going blank, only displaying the message *Search expression?*; provision of *links* between existing databases, e.g. a *windows-based mechanism*, to enable visualisation of more than one

database at a time; graphical tools and interfaces; and lack of thesaurus program/control.

Micro-Isis is not bound to change in the short run: it is still a character-based library automation package capable of handling information structured as series of similar items, i.e. record. So are the current automation packages available for public libraries in the UK, such as GEAC, URICA and DYNIX, which also do not include graphical interfaces, hypermedia navigation, capability to display photos, drawings, etc., and do not have a thesaurus program/control as well.

Because of evaluation conditions prevailing in Brazil, ALIS could not be tested on end users, as it was the initial intention of this project. Nevertheless, the prototype was used, tested and evaluated by Brazilian professionals, who approved of it. Therefore, for the time being ALIS should be recommended as a tool for the professional to organise, access and retrieve community-related information. This demonstrates that ALIS and Micro-Isis managed to fulfil the main purpose of this project: the design of a model and prototype for the systematic organisation, access and retrieval of community-related information for Brazilian public libraries.

The following support the choice of Micro-Isis software for developing community-related information projects for public libraries in developing countries:

- * The software has been continuously implemented by UNESCO's team for almost two decades and has a worldwide users' base. There is no indication that this is going to change or any weakening of UNESCO's commitment towards the software and users worldwide;
- * The combination of Microsoft Windows and Micro-Isis, which can provide a graphical user interface based on WIMP (Windows, Icons, Mouse and Pull-down menus) to the software;
- * Possibility of incorporating to Micro-Isis an additional program for thesaurus creation and maintenance, although the present researcher did not have the opportunity to test it;
- * Micro-Isis current version 3.0 provides full LAN (local area network) support, i.e. simultaneous access to a given database by two or more users for both searching and data entry. This is a major advantage for the set-up of local networks between branch and head libraries.

Thus, in the light of the above, Micro-Isis is recommended as a useful software for the design of an experimental model and prototype to be fully implemented for public library use in Brazil and the systematic organisation of community-related information data still largely undeveloped in that country.

CHAPTER 10

CONCLUSION AND RECOMMENDATIONS

10.1 INTRODUCTION

The thrust for this project was the study of community information and local studies supply by Brazilian public libraries and the proposal, design and evaluation of an experimental model to offer some solutions for the systematic organisation, access and dissemination of community information and local studies data. Community information and local studies were defined jointly within the context of this thesis as *community-related information*. Issues raised by the present prototype design were aimed at encouraging debate and awareness of community-related information issues in order to discuss the foundation for a national capability for community-related information supply centred in the public library environment in Brazil

In what follows, conclusions and recommendations derived from the present research project are presented. Conclusions and recommendations are drafted to reflect the final validation of research findings in the light of developments for community-related information supply in Brazil and worldwide.

Firstly, trends in community information and local studies supply in public libraries worldwide are examined to validate (or not) the case for an ALIS-like approach to community-related information supply by public libraries.

Secondly, the choice of applied prototyping as the core methodology for this research project is reviewed to assess its appropriateness and desirability.

Thirdly, issues pertaining to the planning for the set-up of a national capability for community-related information supply by Brazilian public libraries are raised.

Finally, recommendations are made to urge the continuation of theoretical and practical work in community-related issues for Brazilian public libraries so that the Brazilian people can count on a public information service on fundamental rights for their full exercise of citizenship, as well as access to local data of social, cultural and economical significance not found elsewhere their immediate communities.

10.2 TRENDS IN COMMUNITY-RELATED INFORMATION SUPPLY

Some trends can be observed in terms of community-related information supply, mostly in public libraries, but not restricted to them, worldwide.

The first trend focuses on the extended use of OPACs, such as CINDEX's use of GEAC, where community-related modules are integrated with other modules for the performance of all sorts of library operations. Extended use of OPACs may be found as stand-alone systems in public libraries, and increasingly as networks.

Networks of community-related information systems constitute the second trend in community-related information supply worldwide in developed countries. These are being set up taking advantage of the existing infrastructure under the form of viewdata systems uniting public libraries, local authorities and co-operating organisations in the community, and via extended use of computers and Local Area Networks (LANs), which can be also accessed by private users via modems.

Thirdly, the setup of specialist community information services in public libraries and elsewhere. These specialist community information services make not only specialist information available, but also provide access to Information Technology tools to cater for specific information needs in the community.

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The fourth trend is related to local studies, and involves the creation of bibliographic and non-bibliographic databases to organise the locally generated data impossible to be found elsewhere the immediate community.

Finally, the 5th trend involves the use of graphical and hypermedia packages, still at experimental level, in special outlets, such as the use of HyperCard by Glasgow Online.

Within these trends, ALIS prototype shares/can support the following features:

- * Expands on the use of a software designed for the management of structured and bibliographic/library-based data, like CINDEX in GEAC;
- * Supports simultaneous access to databases by two or more users (LAN support) in case Micro-Isis version 3.0 is used;
- * Can be used to create specific bibliographic databases to organise the locally generated data impossible to be found elsewhere the immediate communities.

Regretfully, it does not have graphical capabilities until now.

On the growth of community-oriented information systems outside public libraries to cater for special interest groups in developed countries, this seems to be a natural development as the need for information increases to live in the post-industrial or information-era. Developing countries like Brazil have not reached this stage, although there are clear indications that community information issues are already being raised still at conceptual and awareness-raising levels.

The revision of the 1972 UNESCO Public Library Manifesto for Public Libraries, an influential document to library development in developing countries, may be a step in this direction. At the end of a seminar in Portugal in 1993, the revised draft of the 1972 Manifesto contained principles which will affect community information and local studies supply. Gill (1994) reported on these principles, and three have direct relevance to community information and local studies provision:

- ' - *The concept of citizenship should be asserted, stressing the citizen's role in this particular service...*
- ' - *The collections should reflect current trends in all their diversity, the evolution of society and function as a memory of society...*
- ' - *New target groups, for example, the local business communities, should be included' (2p).*

The 1972 UNESCO Manifesto for Public Libraries has had a profound influence in Brazilian

public librarianship. In many other developing countries it has also been used to persuade governments of the importance of public libraries (Gill, 1994). The fact that it is being revised to include topics referring to community information and local studies make us hopeful that it will influence in due time not only Brazilian public librarianship but also other developing countries as well to develop their own community-related information services.

Information is clearly much more than a commodity and marketable product, and its access by all, handling and trade open ethical and philosophical questions that need to be addressed worldwide. For intrinsically linked to information is the right to know inherent to all individuals independent on rank, race, status, religion or birth. In Chapter 3, it was demonstrated that this intrinsic right to citizenship is gradually being reclaimed by the Brazilian people, who are leaving behind dictatorship and embracing democracy.

Harris (1992) argues that information is also an essential ingredient for community development, and that community development is an essential factor in working towards participative democracy. He goes further to affirm that *'the capacity of local communities to cope with economic and social change depends heavily on access to information; and if communities do not function, other policy measures will fail'* (48p). In developing countries, the need to encourage individuals, groups and organisations to acquire and use survival and local data to solve both everyday and specific needs may constitute an instrument of empowerment and positive change.

Within this context, the function of the public library is reaffirmed, because one of the major goals of public libraries worldwide has always been to ensure the appropriate mediation to guarantee the right to know and access to information to all. It may very well be said that public libraries in Brazil have a fundamental role to play providing public information services free or heavily subsidised in this new information-based stage Brazil seems to be entering.

On the whole, the analysis of prospective trends for community-related information supply by public libraries and their applicability for chronically under-resourced public libraries of developing country like Brazil favours the extended use of OPACs, via use of Micro-Isis or another similar database management system package. This approach is recommended because it enables the use of the existing infrastructure in automation (if any), flexibility for libraries to create their own community-related files and encourages the systematic organisation of community-related data so needed by developing countries. Fundamentally, this approach empowers professionals to define community-related information modules based on their perceptions of users' needs and resources available to meet these needs.

Other alternatives, on the other hand, are heavily dependent on funds and infrastructure which may be lacking in a developing country. Also, they do not offer much autonomy for public libraries to organise, define and manage their community-related resources shaping them up according to the needs that exist.

10.3 SUITABILITY OF APPLIED PROTOTYPING

The choice of applied prototyping as the core methodology for this project is maintained as adequate for the design of a community-related information retrieval system, because it enabled the simulation and evaluation of a model which would not be possible otherwise. Applied prototyping with Micro-Isis was also a cost-effective alternative to test the ideas the present project intended to introduce, and allowed for a measure of experimentation that should be encouraged in Brazil to foster automation skills not only in public libraries but in Brazilian LIS as a whole.

Robertson (1990), in a lucid and far-reaching essay introducing trends and developments for Basic Information Research written as a contribution to the project Information UK 2000, introduced the idea of conceptual/interactional theory and models, among others. Conceptual/interactional theory and models comprehend the idea of any system based on topic menus that formulate a model of knowledge as embodied in a formal classification scheme and turn it into a model of interaction. He also says that :

'...such a model may be simplistic ("this is how it is therefore this is how the user should see it"), but it does approach the problem of understanding interaction from an angle that a purely interactional model would miss.'

Indeed, ALIS was intended as a conceptual/interactional model according to Robertson's standpoint introduced above. It was aimed at being simple and direct to be easily understood by all and yet to introduce the concepts of information repackaging and the reference/referral function, which can be complex to implement and manage. These concepts, nevertheless, translated faithfully in the prototype design, were aimed at tackling the root of the chronic lack of resources suffered by public libraries in developing countries and empower them to create and build up their own sources for improved community-related information supply.

In the light of evidences introduced above, applied prototyping as described in ALIS by making use of a quality package especially produced for information handling remains an adequate core methodology for the present project and similar enterprises, because it succeeded in simulating and demonstrating a community-related information retrieval system conceived within a cost-effective and sound research and development framework. More

importantly, the coupling of theory and practice enabled by prototyping should be encouraged in Brazilian LIS to bridge current theoretical gaps and foster an indigenous research and development capability more attuned to Brazilian needs.

10.4. BRAZILIAN PUBLIC LIBRARIES: PARADIGM AND CHANGE

A paradigm is defined as a pattern, example and model, which historically have had great influence by promoting replication on a broad scale. With sufficient replication, a new norm is established, thereby concluding a process of change from one paradigm to another (Weingand, 1994).

Basically, public libraries in Brazil have been viewed as a *public good*, such as a park, the national flag, the family, etc., and *civic pride*, i.e. an institution concerned with the preservation of the national heritage and culture. Weingand (1994) argues that this paradigm of 'goodness' and civic pride, nevertheless, is highly idealistic, and that it falters when confronted with the realism of budget cuts and financial constraints. In Brazil, this paradigm has been interpreted in its widest and authoritarian sense, leading to an elitist public library service and not taking into account specific local needs in a country of continental dimensions and strong regional differences. Evidences in Chapter 3 and 5 demonstrated the truthfulness of Weingand's remarks. The political context introduced in Chapter 3 also prevented Brazilian public librarianship from advancing towards user-oriented services.

In the developed world, the new paradigm for public library resources and services has shifted to include 1) the identification of community needs; 2) focus on the user for the provision of resources and services; 3) promotion of community awareness of the library's function within it, 4) routine evaluation of services so that excellence and quality of services can be maintained, and 5) increasing co-operation among libraries themselves, as well as public libraries and their local organisations, national and local authorities.

There are some indications that Brazilian public libraries are slowly becoming aware of the need to shift from their traditional role of document lenders/keepers to community-oriented information suppliers as well. Nevertheless, there is still much to be done to overcome the years of neglect and isolation Brazilian public libraries have been subjected to, particularly in the last few decades..

10.4.1 COMMUNITY-RELATED INFORMATION AND BRAZILIAN PUBLIC LIBRARIES

Although not much has been done in Brazil in a national scale to provide community-related

services in public libraries, the findings of this project indicate that there are positive signs which allow us to have a measure of cautious optimism about the field in this country:

1. Findings of this research demonstrated that although the concepts for both community information and local studies are yet to be established in Brazil, there are already community information and local studies services being provided by most enterprising Brazilian public libraries, especially via the in-house organisation of folders to keep information on topics that affect users' lives, e.g. folders for personal documentation, value of the US dollar, etc. Nevertheless, there is no established framework for community-related information supply to date;
2. The existence of the Information Service for Citizenship (ISC) in Mario de Andrade Public Library may serve as a model for other public libraries in Brazil to create their own community information systems. Historically, Mario de Andrade Public Library has set up trends for Brazilian LIS and public libraries in particular, therefore it may serve again as a catalyst and springboard for change for improved community information services in Brazil.
3. The revision of UNESCO's Manifesto for Public Libraries started in 1993 to include community information and local studies issues provides a further impetus to foster awareness of community-oriented issues in public libraries in developing countries. The influence of UNESCO in Brazilian LIS cannot be underestimated for public libraries in especial, because it laid the foundation for the Brazilian National Public Library System in 1979, which is still operational today, despite all economical setbacks discussed in Chapter 3. The new Manifesto will undoubtedly be instrumental to bring to light aspects of modern public librarianship which should be addressed not only by Brazilian public librarianship, but also by LIS in other developing countries as well;
4. Findings of the selective survey with representative Brazilian public libraries carried out for the present project and evaluation in Brazil (Chapter 5 and Chapter 8) showed that there is a growing awareness and need for community-related information from public librarians and the public alike;
5. The two services which took part in ALIS evaluation in Brazil were receptive to the concepts of community information and local studies. They were also receptive to test and discuss system design issues and implementation;
6. Community-related information issues are getting more prominence especially due to the changing political and social context Brazil is living, as the country engages herself in the full

democratic process again. Public libraries can play a major role nationwide in the systematic organisation, access and dissemination of information on fundamental rights for groups and individuals, provision of data for basic problem-solving and local data not found elsewhere the immediate community. These issues are slowly but surely dawning on the thoughts of public librarians, as this research attempted to demonstrate.

Based on this evidence, it is possible to affirm that awareness of community information issues is being raised in Brazilian public libraries. Nevertheless, it has not yet proceeded to the identification of communities' needs by focusing on the users, let alone to the promotion of community awareness of the role of the public library in informing communities, evaluation of services and co-operation both among libraries and their community sectors as partners in the information exchange chain for mutual benefits.

Before we proceed to discuss a framework upon which a community-related information capability for Brazilian public libraries could be laid out, the current technological infrastructure available in Brazil is examined to see whether it can be of use for Brazilian public libraries.

10.5 TECHNOLOGICAL INFRASTRUCTURE

According to the OECD (Organisation for Economic Co-operation and Development), Brazil is classified as a newly industrialised country, i.e. a developing country which counts already with some indigenous industrial capability (Todaro, M. 1990), and by the United Nations Working Group on Computer Technology as operational in terms of computer use within a scale ranging from initial, basic, operational to advanced (Paker, Y. 1981).

Indeed, in Brazil much government and administrative work is carried out by computers, there is an indigenous computer industry, research and development, as well as some design and production of applications software, with education in computing established nationwide in major federal universities. This capability was made possible by a controversial National Politics for Informatics sanctioned by the National Congress in October 1984 until 1990, and it reserved the national market of mini and microcomputers for national industries only. These, nevertheless, were allowed to have foreign partners, although decision-making and control should lie in Brazilian hands (Figueiredo, 1987).

The Brazilian National Politics for Informatics had its champions in as many numbers as its opponents. Dantas (1988) and Tigre (1983), who traced the history and development of informatics and the computer industry in Brazil, agree that the development of technology in

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Third World countries requires protection against free import design from abroad, and that the policy brought into being a computer and computer-oriented industrial park which listed in 1989 a directory of 200 major enterprises in the country (Anuario Informatica Hoje, As 200 maiores de Informatica, 1989).

Therefore, for the purposes of the present project, there is in Brazil an indigenous computer industry capable of supplying hardware, peripherals and their maintenance, as well as a telecommunications infrastructure, perhaps the only positive legacy of the military dictatorship to Brazilian society.

Although terminals and facilities may not be similar to their most up-to-date counterparts in the developed world, there is no need for Brazilian public libraries to depend on hard-to-get strong foreign currencies to acquire and maintain the necessary equipment to automate their environments. Costs for Micro-Isis software, as mentioned in previous chapters, are negligible, covering only purchase of three 3 discs and an administrative fee.

As more information is being produced or repackaged in a variety of media involving intensive use of information technology, Brazilian public libraries will also be called to utilise effectively various storage and retrieval technologies in the effort to access, filter and deliver the wealth of available data. Nevertheless, the technological infrastructure supplies only the delivery means. It is still up to the libraries to define what their users' information requirements are and to meet them according to the best of professional practice. Used wisely as a tool, the existing infrastructure in Brazil can be used by public libraries for the benefit of Brazilian users. must be based on the library's responsibility to assist the community in their needs.

Thus, based on these facts, the technology imperative is not a major hurdle for public libraries to start automating their services, community-related information supply in special, within the framework suggested by the present prototype design.

10.6 PLANNING FOR A COMMUNITY-RELATED INFORMATION SUPPLY CAPABILITY

In order to plan for a community-related information supply capability for Brazilian public libraries, the following issues should be raised:

1. Professional issues, such as awareness-raising of community-related information, professional/staff development, co-operation/networking, freedom of access to information and ethics of service;

2. The outline of a wider structural framework for community-related information supply centred in Brazilian public libraries which is also compatible with the framework of this project;

3. Issues regarding the day-to-day organisation, maintenance and implementation of services, such as the establishment of the library's policy and aims for community-related information supply, organisation of workshops and meetings with both libraries and local organisations, on-the-job training, production of joint directories, marketing and public relations.

In what follows, these issues will be discussed to encourage the debate on their applicability to foster an indigenous community-related information supply capability centred in Brazilian public libraries.

10.6.1 PROFESSIONAL ISSUES

Professional issues deal basically with the foundation upon which community-related information services will be provided. The most important professional issues are the following:

1. Awareness-raising of community-related supply by Brazilian public libraries:

The first professional issue involves raising the awareness of LIS planners, LIS scholars, decision-makers and local organisations of what community-related information is and what it can do for communities and people.

Findings of this research demonstrate that Brazilian public libraries are gradually becoming more proactive towards community-oriented issues due to the realisation that users are indeed requesting such data (Chapter 8).

Thus, perhaps similar to the historical development of community-related services in public libraries in developed countries, Brazilian public libraries might be called to promote the awareness of such issues nationwide because they have identified the need and are already reaching out rather unsystematically to their communities ahead of the academic environment or LIS planners in Brazil. Indeed, in this case, the practice may lay the foundation to theory so that an indigenous concept, scope and strategic planning for community-oriented services can be established in Brazil based on the professionalism and efforts of public librarians. It is, nevertheless, necessary that professionals take advantage of existing channels of communication to make their views and initiatives on community-related

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issues known to their local authorities, sister libraries, LIS institutions and the community, as well as make use of whatever publicity they have to this end.

2. Professional/staff development:

The term professional/staff development for community-oriented services is preferred to training because staff development comprises continuing education linked directly to organisational involvement and goals (Weingand, 1994).

Findings of this research, nevertheless, revealed that public librarianship was very much neglected in Brazil, as the emphasis was on 'information for development', and that professional self-esteem was low. Rather than deploring the years of neglect, one should perhaps take a more proactive view and concentrate on professional/staff development based on instructional programs aimed at service improvement.

Weingand (1994) recommends the following sequence for in-service programs: philosophy for mission, needs assessment, goal, measurable objectives and evaluation. This is also the sequence recommended by this project. Staff development within this perspective should be seen as a response to 1) a need for internal organisational change in public libraries, shifting from document-oriented to community-driven services; 2) acknowledgement of the importance to provide survival and local data demanded by Brazilian users; 3) establishment of service's aims and how to achieve them, and finally, 5) set-up of parameters for evaluation of services.

Finally, it is important to point out that Public Library Mario de Andrade has been a catalyst for in-service programs and philosophy of services in Brazilian public librarianship since its foundation. Its Information Service for Citizenship, the first community information service in Brazil, could therefore serve as a basis for professional development based on in-service programs to be expanded to other libraries nationwide.

3. Co-operation/networking:

The current picture which emerged of Brazilian public libraries is one of isolation. In developed countries, on the other hand, inter-agency co-operation is a established practice, involving public libraries, academic institutions, advice centres, voluntary groups, business organisations, the mass media and local authorities.

McDowell (1994) says that the trend towards co-operation reflects both local and national influences, and that the benefits of it is firstly the opportunity given to widen the perceptive of information needs of the community, and secondly the potential it offers for increasing the

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local level of resources available for information provision.

Because of the current isolationism of public libraries, it is perhaps advisable that co-operation and networking links are first established with local authorities, who are primary sources of community-related data. Then it would be recommended to extend contacts with the existing voluntary sector and third the set-up of links with the private sector via business, professional associations, etc..

In the case of Brazil, the seeds for co-operation and data exchange can be accomplished via telephone, mail, and scheduled meetings. In case a framework like ALIS is adopted, system output in disc or printouts should be made available to co-operating institutions so that they are kept up-to-date and informed of latest developments. In a developing country like Brazil where information is yet to be considered a valuable resource and not an idle pursuit of the wealthy, data exchange will surely demand time and joint effort so that trust can develop and results obtained among all participants.

Finally, LIS planners and public librarians should be made aware that co-operation, data exchange and resources-sharing constitute some of the most feasible alternatives to preserve users' access to the information and documents, reduce acquisition budgets and storage costs. Moreover, in developing countries these may well constitute the alternatives to enable maximum use of existing resources at the lower level of expenditure possible.

4. Freedom of access to information:

Freedom of access to information is a crucial ethical issue in Brazil, especially because it stands in direct opposition to censorship (Usherwood, 1989). As seen in Chapter 3, the military rule in Brazil enforced censorship to considerable damage, and this recent past should not be repeated.

Likewise, freedom of access to information is fundamental to democracy, as pointed out by . Harris (1992):

'... since inaccessible information is not informing anyone. And since access [to information] is not neutral, but calls for action, if we are concerned to promote democracy, then we must promote access to information actively' (47p).

The third and perhaps most crucial issue on access to community information in Brazil regards the disadvantaged and information poor. This segment of the population need fundamental data on rights and the welfare system, but in most cases will not know how to proceed to claim them.

Fourthly, freedom of access to local data is essential in a country of continental dimensions like Brazil, because local needs may differ greatly across regions, as climate, colonisation, economic production, traditions, etc. vary across the land.

It is our belief that LIS planners and public librarians have a major role to play regarding the discussion of access to community-related data nationwide. Furthermore, present professionals may be the most qualified to organise the data, as well as the existing public libraries in the country can be used as immediate service-points together with local authorities.

5. Ethics of service:

The provision of community information raises first and foremost the issues of confidentiality and loyalty to the client, because there are cases when community information supply involves a measure of advice and counselling in matters that may have a profound effect in people's lives (Usherwood, 1989). The line between advice and counselling in the provision of community-related information in Brazil might be blurred as services begin to be implemented because of the lack of a long-standing voluntary/advice-giving sector in Brazil. Therefore, professionals might initially be advised to keep closer contacts with local authorities and the local Librarianship Council to solve doubts and preserve the best code of practice compatible with professional standards. A Code of Conduct in Brazilian LIS is yet to be created. In the case of computer-based systems to store and access community information, legislation regarding computer-held records must be respected. Local studies supply also involve ethics, because special services requested by a client or groups should not be disclosed without having the client's or group's consent first.

It is fundamental therefore that ethical issues are raised and discussed by Brazilian professionals and LIS decision-makers in order to draft a Code of Conduct applied to these services. Brazil does have, on the other hand, data protection act legislation to ensure privacy and access to one's own data kept in computerised media. The Brazilian Data Protection Act is one of the highlights of the 1988 Constitution and a reaction against the files only accessed by the Special Police and the military during the dark years of dictatorship. Public libraries with computers in the premises should obviously be familiar with such legislation.

10.6.2 FRAMEWORK FOR A NATIONAL COMMUNITY-RELATED INFORMATION SYSTEM

Considering the framework of the present research project and the actual situation of Brazilian public libraries in terms of resources and personnel, it may be the case to suggest that a community-related information capability is to be conceived within detailed planning first for the major public libraries located in the most important Brazilian municipalities. These major libraries are likely to be the ones counting with resources and personnel to undertake such an enterprise, as well as could act as catalysts for the set-up of community-related information systems in branch/minor public libraries under their jurisdiction.

Such representative public libraries could very well be the thirty-four Brazilian public libraries (see Chapter 4) chosen for the national survey on procedures and services carried out for this thesis, and considered the most important Brazilian public libraries according to the World Guide to Libraries (1989). Many of these libraries are heads of their regional/local public library systems and have been long linked to their communities.

Therefore, planning for a community-related information supply capability may not be so far-fetched as one could initially think. By taking advantage of the existing infrastructure for the National Public Library System introduced in Chapter 3, it is possible to suggest a similar framework for community-related information supply in Brazilian public libraries nationwide, whereby major libraries would provide the infrastructure, i.e. computers, and guidance to minor libraries, which would then collect local data according to their own communities' needs.

A National Community-Related Information and Public Library System (NCRI/PLS) is therefore suggested within the following lines:

1. Creation of a High Council for Community-Related Information Issues, formed by representatives from the federal government, such as Ministers and Secretariats concerned with public library and information issues in Brazil, representatives from renowned LIS Institutions, i.e. the National Library, IBICT, etc. and Community-Related Information Officers of head/main public libraries in Brazil;
2. Choice of key public libraries in the country as heads of their community-related information systems, formed by themselves and by
3. Minor/Branch libraries under the jurisdiction/co-ordination these key major public libraries.

Thus, at the top it is suggested a National Council for Community-Related Issues formed by representatives of community-related information officers of major Brazilian public libraries and LIS authorities and decision-makers in the country.

The second tier of the hierarchy is made of the key public libraries chosen to be the catalysts and springboards for community-related information initiatives. These major libraries would be in charge of organising, standardising, co-ordinating and disseminating activities in their own environments and in branch libraries under their jurisdiction. Branch libraries would collect their local data. In the lack of computer facilities in branch libraries, data would be processed in the head libraries. Printed output should be made available for all libraries, and made available to all.

The present project therefore proposes that ALIS or an ALIS-related framework be adopted by major public libraries in Brazil, who will report to a national forum for community-related information matters formed also by them, LIS authorities and decision-makers. These major libraries could be heads of the existing National Public Library System. They would be in charge of co-ordinating and working together with branch/minor libraries under their care for community-related issues as well.

Naturally, planning for such an enterprise opens more questions, such as internal organisational issues, which are examined next.

10.6.3 INTERNAL ORGANISATION ISSUES

Issues regarding the day-to-day organisation, maintenance and implementation of services are the following:

1. Establishment of the library's policy and aims for community-related information supply:

The establishment of the library's policy and aims for community-related information supply is the starting point for the supply of a quality service. It should therefore include the philosophy of service, skills and personnel, resources, specific activities necessary to accomplish the planned goals, co-ordination and measurement of obtained results.

Perhaps the most advisable course of action for Brazilian public libraries should be the adoption of a strategic management approach as suggested by Davies (1992) instead of traditional operational management. According to this author, strategic management can offer a wider perspective than operational management, because strategic management takes into account long term action, it exposes choices instead of reinforcing continuities, is

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politically aware, grounded in the environment, looks at the network of community organisations and sees inter-relationships between tasks.

Last but not least, strategic management is concerned with changing organisations to establish new ways of working where the existing set-up is deficient. Considering that community-related information services are either non-existent or unsystematic at present, the adoption of strategic management would be advisable to establish a nationwide policy and aims for community-related information provision flexible enough to account for local needs and regional diversities.

2. Co-operation and partnership with minor libraries:

Close contacts and co-operation with minor/branch libraries is essential to establish a community-related supply capability adapted to users' and local requirements in a country of continental dimensions as Brazil. To this end, the existing scheduled meetings of the National Public Library System at national and local level could include a community-related information workforce. Thus, the agenda of already scheduled meetings could be expanded so that matters could be dealt by all parts involved without further costs.

Fundamentally, it is necessary that public libraries become more proactive towards their sister libraries so that effective partnership can be developed. Partnership should be understood as a goal-oriented enterprise, and funded on perceived benefits.

3. Organisation of workshops and meetings:

Workshops and meetings enable the exchange of experiences, evaluation of joint efforts and the discussion of common/standardisation procedures which are fundamental to bring all participants of any community-related information system.

There will be therefore a need for periodical meetings at all levels of the structure proposed for the national community-related information and public library system. These could take place jointly with current meetings and workshops schedules of the National Public Library System in Brazil, expanded to this end.

4. On-the-job training:

The development of skills to run and implement community-related information services or an ALIS-like framework in Brazilian public libraries should be seen within a continuous on-the-job training scheme established by head libraries jointly with branch/minor libraries and the suggested National Council for Community-Related Information in Public Libraries.

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Indeed, in developing countries on-the-job training schemes may be one of the alternatives to link theory and with hands-on experience to encourage innovation within the shortest span of time possible and the least costs.

It is important to point out that many libraries in Brazil maintain training agreements with renowned LIS schools nationwide, and that LIS students are expected to undertake compulsory library training as part of their coursework. On-the-job training within an ALIS-like framework would be invaluable for future graduates and professionals alike to deal with issues such as information repackaging, design of community-related information systems, systematic organisation of the locally generated data, etc.

5. Production of joint directories:

By encouraging the systematic organisation of local resources files for community-related data, local joint directories can be produced in-house by public libraries and shared among participating institutions. Micro-Isis does offer ISISPRT - Printing and Sorting Services, which can be used to produce by-products of existing databases, for example.

The standard community information service of the London Borough of Camden, CINDEX, produces printed copies of its main directory of services, i.e. 'Places to hire in Camden', etc. for users to take away. This practice should be encouraged by ALIS or an ALIS-like framework in Brazil.

The organisation and importance of local resources files to meet communities' needs have been stated throughout this thesis. Indeed, ALIS design was aimed at encouraging the very compilation of local resources files or directories by Brazilian public libraries. Therefore, the creation and update of joint directories constitute a fundamental issue to cater for local information needs.

6. Marketing and public relations

Marketing and Public Relations issues constitute fundamental components for the maintenance of community-related information systems in the moulds of ALIS so that the system functions, tasks and products are known by participating libraries, co-operating organisations and made more visible to the public.

Moreover, marketing and public relations provide a tool for the following system maintenance operations:

1. Evaluation of services/products rendered and surveys to check the demand for new ones;

2. Publication of brochures and relevant ephemera targeted to the public and co-operating institutions;
3. Maintenance of links, especially with participating organisations/individuals in the community, and
4. Promotion of the community-related information service to make it more visible to the community and co-operating organisations (Zhang, 1990).

Findings for the present research showed that marketing and public relations issues are not unknown to public libraries in Brazil, and that some major libraries have a Public Relations Officer, who could help lending his/her expertise to market an ALIS-like framework. Thus, the existing infrastructure for marketing and public relations in Brazilian public libraries, if any, should take a more prominent role to raise the awareness of community-related information issues, and thus help to promote, market and disseminate community-related information services to all sectors of the community.

10.7 RECOMMENDATIONS

The main goal of the present research project was the design of a conceptual and theoretical model to offer solutions and encourage debate for community-related information supply by Brazilian public libraries. The model was designed, tested and evaluated, bringing to light the following recommendations at structural/organisational levels:

- * Public libraries stand in a unique position to provide this skilful mediation for Brazilian users fundamentally by making use of their expertise and the systematic build-up of local resources files;
- * The seed for a national infrastructure for community-related information supply is not far-fetched and could be built based on the existing structure of the National Public Library System.

Thus, taking into consideration the above mentioned facts, the following recommendations are made to finalise the present research:

- a. Continuing practical and theoretical work on community-related information systems in Brazil and in developing countries as a whole. This need should be brought to the attention of LIS authorities in Brazil and worldwide for further action;
- b. Continuing work on information repackaging and further exploration of the reference/referral framework as presented in ALIS to validate/invalidate their foundation for

community-related information supply, and;

c. Continuing work on Micro-Isis by UNESCO's development team to improve end users' searching interfaces.

Finally, the systematic organisation of locally generated resources in public libraries in a developing country like Brazil should be seen in a wider perspective, because it means the access, organisation and dissemination of primary sources data on rights, basic problem-solving and the local memory many times not likely to be obtained elsewhere. Perhaps developing countries like Brazil would benefit more from looking within their existing resources first, having as starting point their communities.

Public libraries as public information suppliers serve communities and it is in the communities that all libraries find their purpose and sustenance. This skilled mediation is a challenge, an opportunity, a duty and a privilege we cannot ignore. For tomorrow's ideal community-related information systems exist first in our visions, then in our will, insights and deeds of today.

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APPENDICES

Appendix A

List of major Brazilian Public Libraries according to the *World Guide to Libraries* (1987), and *Revista de Biblioteconomia de Brasilia*, 7(2), 1979:

1. Public Library of Bahia State, founded in 1811, Salvador, Bahia;
2. Public Library Benedito Leite, founded in 1829, Sao Luiz, Maranhao;
3. Public Library Rio Grandense, founded in 1846, Rio Grande, R. G. do Sul;
4. Public Library of Sergipe State, founded in 1851, Aracaju, Sergipe;
5. Public Library Castelo Branco, founded in 1852, Recife, Pernambuco;
6. Public Library of Santa Catarina State, founded in 1855, Florianopolis, S. Catarina;
7. Public Library of Parana' State, founded in 1857, Curitiba, Parana';
8. Public Library of Alagoas State, founded in 1865, Maceio, Alagoas;
9. Public Library of Amazonas State, founded in 1870, Manaus, Amazonas;
10. Public Library George Alexandre, founded in 1870, Sao Paulo, Sao Paulo;
11. Public Library and Archive of Para', founded in 1871, Belem, Para';
12. Public Library of Rio Grande do Sul State, founded in 1871, Porto Alegre, RS;
13. Municipal Public Library, founded in 1871, Petropolis, Rio de Janeiro;
14. Public Library Pelotense, founded in 1875, Pelotas, Rio Grande do Sul;
15. Public Library of Piaui State, founded in 1879, Terezina, Piaui;
16. Public Library Mario de Andrade, founded in 1825, Sao Paulo, Sao Paulo;
17. Municipal Public Library Gladstone Marsico, founded in 1946, Erechim, RS;
18. Municipal Public Library Rolf Colim, founded in 1952, Joinville, S. Catarina;
19. Regional Public Library of Copacabana, founded in 1954, R. Janeiro, RJ;
20. Municipal Public Library Paulo Zappi, founded in 1954, Gov. Valadares, MG;
21. Public Library of Minas Gerais State, founded in 1954, B. Horizonte, MG;
22. Municipal Public Library Monteiro Lobato, founded in 1959, S. Bernardo, SP;
23. Municipal Public Library Alvenir Peixoto, founded in 1960, in Exu;
24. Municipal Public Library of Chapada, founded in 1962, Chapada, Sao Paulo;
25. Municipal Public Library Origenes Lessa, founded in 1963, Lencois Paulista;
26. Municipal Public Library Monteiro Lobato, founded in 1965, Horizontina;
27. Municipal Public Library Menezes Pimentel, founded in 1967, Fortaleza, Ceara';
28. Municipal Public Library Rui Barbosa, founded in 1973, Colombo;
29. Municipal Public Library Getulio Vargas, founded in 1977, Tomazina;
30. Municipal Public Library Ernesto Zinck, Campinas, Sao Paulo;
31. Municipal Public Library of Avare, Avare, Sao Paulo;
32. Public Library of Rio de Janeiro State, Niteroi, Rio de Janeiro State;
33. Municipal Public Library of Santo Andre, Santo Andre, Sao Paulo;
34. Public Library Camara Cascudo, Natal, Rio Grande do Norte.

Appendix B

Survey Questionnaire for Selected Brazilian Public Libraries - English Version

PART 1 - GENERAL CHARACTERISTICS

1. Library Identification

Q1. Name of PUBLIC LIBRARY: _____

Q.2 LOCATION: _____
city state

Q.3 OPENING HOURS AND DAYS OF THE WEEK: _____

Q.4 Access to stock:
() Closed access to all stock
() Open access to all stock
() Both open and closed access
Please specify sections of Open Access: _____

Q.5 Numbers for Library staff
() Qualified graduate in Library/Information Studies: _____
() Non-qualified graduate: _____
() Non-graduate library assistant: _____

2. LIBRARY COLLECTION AND RESOURCES

Q.6 What is the size of your library stock?
Books - number of items: _____
Periodicals - number of subscriptions: _____
Newspapers - number of subscriptions: _____
Audio visuals - number of items: _____

Based on statistics of 19_____
Data based on estimates ()

Q.7 Please indicate the equipment your library has and to whom it is available:

	Not available	Staff Only	Users Only	Users and Staff
Photocopy machine	_____	_____	_____	_____
Television	_____	_____	_____	_____
Record player	_____	_____	_____	_____
Video cassette rec.	_____	_____	_____	_____
Microform reader	_____	_____	_____	_____
Telephone	_____	_____	_____	_____
Telex	_____	_____	_____	_____
Fax machine	_____	_____	_____	_____
Other, please specify	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Q.8 Do you have a COMPUTER in your library?
() YES, Please specify its uses in the Library: _____

() NO -----> PLEASE GO TO Q.10

Q.9 Please indicate if you have any plans for future computer use in your library and proceed to Q.11:
() Yes. Please specify what they are: _____
() No

Q.10 If you do not have a computer in your library, please indicate if you have any plans to acquire one for the library service:
YES () Please indicate time scale
 () Next Year () In the next 2 years () In 5 years () Longer time
NO ()

3. LIBRARY PROCEDURES

3.1 CATALOGUING AND CLASSIFICATION

Q.11 The library CATALOGUING CODE is:
() AACRII
() Vatican
() Other. Please specify _____

Q.12 Please indicate the format and availability of the library catalogues. Mark as many as applicable:

	Staff only	Users only	Users/Staff
Printed book	_____	_____	_____
Card	_____	_____	_____
Microfiche	_____	_____	_____
Online	_____	_____	_____

Q.13 What type of catalogue does your library have? Mark as many as applicable:
() Author/Title
() Title
() Subject Index
() Dictionary
() Online (bibliographic database)
() Online (integrated with circulation)
() Other, please specify: _____

Q.14 What is the Classification sytem adopted?
() UDC, version _____
() Dewey, edition _____
() Other. Please specify: _____

Q.15 Is Cataloguing carried out in the library?
() Yes () No

Q.16 Is all your library material catalogued?
() Yes

() No. Please specify material which is not catalogued_____

Q.17 Please indicate if you have produced/organised any of the following:

	Yes	No
Inhouse glossaries	()	()
Inhouse thesauri	()	()
Abstracts for collection/books	()	()
Data for everyday needs, eg. the law, health, etc.	()	()
Data related to the locality	()	()

Other. Please specify _____

3.2 AQUISITIONS

Q.18 Your acquisition system is:

- () Manual
- () Automated
- () Both manual and automated

Q.19 Please indicate where the library financial resources come from. Mark as many as applicable:

- () Federal government
- () State government
- () Municipality
- () Other. Please specify: _____

Q.20 Does the library receive resources from the following sources?

	Yes	No
INL (National Book Institute)	_____	_____
Local publishers	_____	_____
Local government	_____	_____
Central government	_____	_____
Private companies	_____	_____
Users	_____	_____
Others. Please specify	_____	

4. PUBLIC LIBRARY USE AND USERS

Q.21 Who are the main users of your library? Mark as many as applicable:

- () General public out of the formal education system
- () People attending formal primary/secondary school
- () Teachers
- () Researchers
- () Other. Please specify: _____

Q.22 What SERVICES do you provide? Mark as many as applicable:

- () Enquiry/Reference Service
- () Loans
- () Bibliographic searches
- () Special services for the community
- () Other. Please specify _____

Q.23 According to your statistics, please indicate the number of users you cater for and delete as applicable the length of time you base your data on:
Number of users: _____ Weekly/Monthly/Yearly
Data not available: _____

5. PUBLICITY

Q.24 Does your library have any of the following to draw the public's attention to the service?
Mark as many as applicable:
() Displays of new acquisitions
() Leaflets showing library services
() Displays showing library history/activities
() Guided library tours

Q.25 Does your library organise and/or sponsor any of the following
Yes, Please mark as many as applicable
children's activities _____
conferences _____
exhibitions _____
recitals _____
reading sessions _____
literary contests _____
others, please specify _____

Q.26 Does your library have a 'Friends of the Library' society?
() Yes () No

6. LOCAL HISTORY/STATE SECTION

Q.27 Does your library have a LOCAL HISTORY/STATE Section?
() Yes () No -----> GO TO Q.30

Q.28 Please indicate which kind of material is included in this section. Mark as many as applicable:
() Books
() Newspapers
() Periodicals
() Maps
() Prints
() Pictures/photos
() Films
() Other. Please specify: _____

Q.29 Does your library receive copies of CURRENT MATERIAL published and/or related to the state/local community?
() Yes. Please specify the supplier: _____
() No

7. GENERAL AND LOCAL REFERENCE SERVICES

Q.30 Does your library have a reference collection?

☐ Yes ☐ No -----> PLEASE GO TO Q.41

Q.31 Please indicate the sources of information that you hold in this collection. Mark as many as applicable:

- ☐ Dictionaries and encyclopedias
- ☐ Atlases
- ☐ Bibliographies
- ☐ Indexes
- ☐ Yearbooks
- ☐ Directories
- ☐ Statistics
- ☐ Others. Please specify: _____

Q.32 Please indicate number of staff involved in this service:

Qualified librarian/information studies graduate: _____

Qualified library assistant: _____

Non qualified library assistant: _____

Q.33 Please indicate if your library has any of the following local information/data. Mark as many as applicable:

- ☐ Hospitals and health services
 - ☐ Legal aid/solicitors
 - ☐ Local schools/learning centres
 - ☐ Government agencies - purpose and addresses
 - ☐ Government officers/councillors
 - ☐ Job-related information
 - ☐ Id pack (ex. passport, driving license, etc.)
 - ☐ Community events
 - ☐ Other. Please specify: _____
- _____

Q.34 Does your library engage in the supply of ANY of the above sets of data to users?

☐ YES, AS PART OF THE REFERENCE SERVICE

☐ YES, AS A SPECIALLY IDENTIFIED LIBRARY SERVICE

PLEASE STATE THIS SPECIAL NAME/IDENTIFICATION: _____

Q.35 Please indicate the number of enquiries you get on these topics according to your statistics/records:

Weekly _____

Monthly _____

Not available _____

Q.36 What are the main sources of data you use?

☐ Printed sources only -----> GO TO Q. 40

☐ Own files

☐ A combination of printed sources/own files

Q.37 If you create your own files, please indicate which subjects they cover?

Q.38 How is the information in these files made available to users?

- ☐ Self-service
- ☐ Through the library staff
- ☐ A combination of both

Q.39 How are the printed sources made available to users?

- ☐ Self-service
- ☐ Through the library staff
- ☐ A combination of both

Q.40 Please indicate if you supply this data to other institutions:

- ☐ Yes Please state who they are: _____
- ☐ No

PART B - TRENDS AND DEVELOPMENTS

Q.41 Which of the following expressions most accurately reflect your views on the situation of public libraries in Brazil in the last five years?

41.1 Number of public libraries related to number of users

- ☐ Very adequate
- ☐ Adequate
- ☐ Neither adequate nor inadequate
- ☐ Inadequate
- ☐ Very inadequate

41.2 Qualifications of public library staff:

- ☐ Very adequate
- ☐ Adequate
- ☐ Neither adequate nor inadequate
- ☐ Inadequate
- ☐ Very inadequate

Q.41.3 Funding: library building and equipment

- ☐ Very adequate
- ☐ Adequate
- ☐ Neither adequate nor inadequate
- ☐ Inadequate
- ☐ Very inadequate

Q.42 Overall, public libraries in Brazil are highly regarded by their local authorities.

- ☐ Agree strongly
- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.43 As a whole, the profile of public libraries in the community in Brazil is high.

- ☐ Agree strongly

- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.44 The trend to incorporate public libraries in cultural centres constitutes a favourable development which brings public libraries closer to the community.

- ☐ Agree strongly
- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.45 The compilation and dissemination of community-oriented information in the public library could constitute an important service to increase the number of library users in Brazil.

- ☐ Agree strongly
- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.46 Closer involvement with library and information studies schools and public libraries in Brazil could be beneficial to provide a channel for the exchange of ideas and experiences among practitioners and the academic community, especially in library technology issues.

- ☐ Agree strongly
- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.47 The computerisation of public library services in Brazil could provide a crucial factor for a more efficient public library service in the country.

- ☐ Agree strongly
- ☐ Agree
- ☐ Neither agree/nor disagree
- ☐ Disagree
- ☐ Disagree strongly

Q.48 Please use the space below for any comments or suggestions you would like to make:

THANKS FOR YOUR TIME AND EFFORT IN REPPLYING TO THIS QUESTIONNAIRE

APPENDIX C

Survey Questionnaire for Selected Brazilian Public Libraries - Portuguese Version

PARTE 1 - DADOS GERAIS

1. IDENTIFICACAO DA BIBLIOTECA

Q1. Nome da Biblioteca Publica: _____

Q.2 Localizacao: _____
cidade estado

Q.3 Horario de abertura e dias da semana: _____

Q.4 Acesso ao estoque:
() Fechado a todo estoque
() Aberto a todo estoque
() Acesso aberto e fechado
Especifique areas de Acesso Aberto: _____

Q.5 Numeros para o pessoal de biblioteca:
() Graduado em Biblioteconomia/Ciencia da Informacao: _____
() Graduado em outras areas _____
() Assistente de biblioteca sem graduacao: _____

2. COLECAO E RECURSOS

Q.6 Qual e' o tamanho da sua colecao de biblioteca?
Livros - no. de itens: _____
Periodicos - no. de assinaturas: _____
Jornais - no. de assinaturas: _____
Audiovisuais - no. de itens: _____

Baseado em estatisticas de 19_____
Dados baseados em estimativas ()

Q.7 Indique os equipamentos que a sua biblioteca possui e para quem eles estao disponiveis:	Nao disponivel	Biblioteca Apenas	Usurarios Apenas	Usuarios e Biblioteca
Fotocopiadora	_____	_____	_____	_____
Televisao	_____	_____	_____	_____
Toca-disco	_____	_____	_____	_____
Video cassete	_____	_____	_____	_____
Leitora de microficas	_____	_____	_____	_____
Telefone	_____	_____	_____	_____
Telex	_____	_____	_____	_____
Fax	_____	_____	_____	_____
Outro. Especifique:	_____			

Q.8 V. tem COMPUTADOR na sua biblioteca?
() Sim, especifique por favor seus usos na sua biblioteca: _____

() Nao -----> VA para Q.10

Q.9 Indique se V. tem planos futuros para utilizacao do computador na sua biblioteca e va' para Q.11:
() SIM. Especifique quais sao eles: _____
() Nao

Q.10 Se V. nao tem computardor na sua biblioteca, indique se V. tem planos para adquirir um para o servico:
SIM () INDIQUE ESCALA DE TEMPO
() PROXIMO ANO () PROXIMOS 2 ANOS () EM 5 ANOS
NAO TEM PLANOS PARA COMPRAR UM COMPUTAOR ()

3. PROCEDIMENTOS DE BIBLIOTECA

3.1 CATALOGACAO E CLASSIFICACAO

Q.11 O codigo de catalogacao da biblioteca e':
() AACRII
() Vaticana
() Outro. Especifique: _____

Q.12 Indique o formato e disponibilidade dos catalogos de biblioteca. Marque tantos quantos forem necessarios:

	Pessoal Apenas	Usuarios Apenas	Usuarios/Pessoalf
Livro impresso	_____	_____	_____
Fichas	_____	_____	_____
Microfichas	_____	_____	_____
Em linha	_____	_____	_____

Q.13 Que tipo de catalogo tem a sua biblioteca? Marque tantos quantos forem necessarios:
() Autor/Titulo
() Titulo
() Indice de assunto
() Dicionario
() Em linha (base de dados bibliografica)
() Em linha (integrado com circulacao)
() Outros. Especifique: _____

Q.14 Qual e' o sistema de CLASSIFICACAO adotado?
() CDU, versao _____
() Dewey, edicao _____
() Outros. Especifique: _____

Q.15 A catalogacao e' feita na biblioteca?
() Sim () Nao

Q.16 Todo o estoque da biblioteca esta' catalogado?

- () Sim
() Nao. Especifique que material nao esta' catalogado:_____

Q.17 Indique se V. produziu/organisour qualquer dos seguintes:

	SIM	NAO
Glossarios	()	()
Tesauros	()	()
Resumos para colecao/livros	()	()
() Outros. Especifique:	_____	

3.2 AQUISICOES

Q.18 Seu sistema de aquisicao e':

- () Manual
() Automatizado
() Ambos manual e automatizado

Q.19 Indique de onde vem os recursos financeiros para a biblioteca. Marque tantos quantos forem necessarios:

- () Governo federal
() Governo do estado
() Municipalidade
() Outros. Especifique:_____

Q.20 Sua biblioteca recebe fundos das fontes abaixo?

	SIM	NAO
INL	_____	_____
Editores locais	_____	_____
Governo Local	_____	_____
Governo Central	_____	_____
Empresa privada	_____	_____
Usuarios	_____	_____
Outros. Especifique:	_____	

4. USO E USUARIOS DA BIBLIOTECA PUBLICA

Q.21 Quem sao os usuarios principais da sua biblioteca? Marque tantos quantos forem necessarios:

- () Estudantes de primeiro/segundo grau
() Publico em geral fora do sistema de educacao
() Professores
() Pesquisadores
() Outros. Especifique:_____

Q.22 Que SERVICOS V. fornece? Marque tantos quantos forem necessarios:

- () Servico de Referencia/Informacoes
() Empréstimos
() Buscas bibliograficas
() Servicos especiais para a comunidade
() Outros. Favor especificar:_____

Q.23 De acordo com suas estatisticas, indique o numero de usuarios que V. atende , indicando o periodo de tempo no qual V. baseia seus dados:

Numero de usuarios: _____ Seman/Mes/Ano
Dados nao disponiveis: _____

5. PUBLICIDADE

Q.24 Sua biblioteca tem qualquer dos seguintes itens para atrair a atencao do publico para o servico? Marque tantos quantos forem necessarios:

- () Mostra de novas aquisicoes
- () Folhetos mostrando servicos da biblioteca
- () Exibicoes mostrando atividades/historia da biblioteca
- () Passeios da biblioteca

Q.25 Sua biblioteca organiza/patrocina eventos?

- () NAO
- () SIM. Marque tantos quantos forem necessarios:

atividades para crianas _____
conferencias _____
exibicoes _____
recitais _____
sessoes de leitura _____
concursos literarios _____
outros, especifique: _____

Q.26 Sua biblioteca tem uma sociedade 'Amigos da Biblioteca'?

- () SIM
- () NAO

6. SECAO DE HISTORIA LOCAL

Q.27 Sua biblioteca tem uma secao de HISTORIA LOCAL/DO ESTADO?

- () SIM
- () NAO -----> VA PARA Q.30

Q.28 Indique que tipo de material esta' incluido nesta secao. Marque tantos quantos forem necessarios:

- () Livros
- () Jornais
- () Periodicos
- () Mapas
- () Impressos
- () Fotos
- () Filmes
- () Outros. Especifique: _____

Q.29 Sua biblioteca recebe copias de MATERIAL CORRENTE publicado e/ou relacionado com a comunidade local/estado?

- () Sim. Especifique o fornecedor: _____
- () Nao

7. SERVICOS DE REFERENCIA GERAIS E LOCAIS

Q.30 Sua biblioteca tem uma colecao de referencia?

() SIM () NAO -----> VA PARA Q.41

Q.31 Indique as fontes de informacoes locais que V. tem na sua colecao. Marque tantos quantos forem necessarios:

- () Dicionarios e enciclopedias
- () Atlases
- () Bibliografias
- () Indices
- () Anuarios
- () Diretorios
- () Estatisticas
- () Outros. Especifique: _____

Q.32 Indique o numero de pessoas envolvidas neste servico:

Bibliotecario/Cientista da Informacao: _____

Assistente de biblioteca com graduacao: _____

Assistente de biblioteca (sem graduacao) _____

Q.33 Favor indicar se sua biblioteca tem qualquer dos seguintes dados. Marque quantos forem necessarios::

- () Hospitais e servicos de saude
- () Dados sobre lei/advogados
- () Escolas/centros de aprendizagem locais
- () Orgaos do governo - fim e enderecos
- () Membros do governo/deputados
- () Empregos/profissoes
- () Identidades (ex. passaporte, carteira de motorista, do trabalho, etc.)
- () Eventos da comunidade
- () Outros. Especifique: _____

Q.34 Sua biblioteca fornece qualquer destes dados para os usuarios?

() SIM, COMO PARTE DO SERVICO DE REFERENCIA

() SIM, COMO UM SERVICO ESPECIAL DE BIBLIOTECA

FAVOR CITAR O NOME/IDENTIFICACAO DO SERVICO: _____

Q.35 Indique o numero de pedidos que V. recebe sobre estes assuntos de acordo com suas estatisticas/registros:

Semanalmente _____

Mensalmente _____

Nao disponivel _____

Q.36 Quais sao as fontes principais de dados que V. usa?

- () Fontes impressas apenas -----> Va' para Q. 40
- () Arquivos proprios
- () Combinacao de arquivos proprios/fontes impressas

Q.37 Se V. cria seus arquivos, indique quais as areas que eles cobrem:

Q.38 Como estas informacoes nestes arquivos estao disponiveis para os usuarios?

- ☐ Auto-servico
- ☐ Via pessoal da biblioteca
- ☐ Combinacao de ambos

Q.39 Como estes recursos estao disponiveis para os usuarios?

- ☐ Auto-servico
- ☐ Via pessoal da biblioteca
- ☐ Combinacao de ambos

Q.40 Indique se V. fornece estes dados para outras instituicoes:

- ☐ Sim, Indique quem sao: _____
- ☐ Nao

PARTE B - TENDENCIAS E DESENVOLVIMENTOS

Q.41 Quais das seguintes expressoes reflete de forma mais correta a sua opiniao sobre a situacao de bibliotecas publicas brasileiras nos ultimos cinco anos?

41.1 Numero de bibliotecas publicas com relacao ao numero de usuarios:

- ☐ Muito adequado
- ☐ Adequado
- ☐ Nem adequado/inadequado
- ☐ Inadequado
- ☐ Muito inadequado

41.2 Qualificacoes do pessoal de biblioteca:

- ☐ Muito adequado
- ☐ Adequado
- ☐ Nem adequado/inadequado
- ☐ Inadequado
- ☐ Muito inadequado

Q.41.3 Fundos: predios e equipamentos

- ☐ Muito adequado
- ☐ Adequado
- ☐ Nem adequado/inadequado
- ☐ Inadequado
- ☐ Muito inadequado

Q.42 Em geral, bibliotecas publicas brasileiras tem um alto perfil com as autoridades.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda
- ☐ Discorda
- ☐ Discorda plenamente

Q.43 Em geral, e' alto o perfil de bibliotecas publicas na comunidade no Brasil.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda

- ☐ Discorda
- ☐ Discorda plenamente

Q.44 A tendencia de incorporar bibliotecas publicas em centros de cultura e' um desenvolvimento positivo, pois faz a biblioteca aproximar-se mais da comunidade.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda
- ☐ Discorda
- ☐ Discorda plenamente

Q.45 A compilacao e disseminacao de informacoes relativas a comunidade na biblioteca publica constitui um importante servico para aumentar o numero de usuarios de biblioteca no Brasil.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda
- ☐ Discorda
- ☐ Discorda plenamente

Q.46 Maior envolvimento entre bibliotecas publicas e escolas de biblioteconomia e ciencia da informacao pode agilizar a troca de ideias e experiencias entre profissionais e a comunidade academica, especialmente no que se refere a tecnologia de bibliotecas.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda
- ☐ Discorda
- ☐ Discorda plenamente

Q.47 O uso de computadores em bibliotecas publicas no Brasil pode vir a ser um fator fundamental para servicos mais eficientes no pais.

- ☐ Concorda plenamente
- ☐ Concorda
- ☐ Nao concorda nem discorda
- ☐ Discorda
- ☐ Discorda plenamente

Q.48 Utilise este espaco para quaisquer comentarios ou sugestoes que V. gostaria de fazer:

MUITO OBRIGADA PELA SUA COOPERACAO

Appendix D

Follow-up Letter for Postal Survey - English Verslon

Dear Chief Librarian,

I am respectfully addressing this mail to you regarding a postal survey on the profile of Brazilian public libraries I am conducting as part of my doctoral project in Information Science at the City University, Department of Information Science, London, UK.

Your co-operation in replying to this survey is most appreciated, because it will supply important data on current procedures so that a more up-to-date profile of Brazilian public libraries can be made. Your answers will be treated with confidentiality and scholarly discretion as befitting to the present research project.

Thanks in advance and please do not hesitate to contact me for any detail you may require.

Yours sincerely,

R. R. Velho Lopes

Appendix E

Follow-up Letter for Postal Survey - Portuguese Verslon

Prezada Sr/Sra Diretora,

Venho pela presente solicitar a sua cooperacao com relacao a uma pesquisa sobre o perfil de bibliotecas publicas brasileiras que estou realizando como parte do meu projeto de doutorado junto a City University, Departamento de Ciencia da Informacao, Londres, Reino Unido.

Sua cooperacao e' essencial, pois meu objetivo e' a obtencao de dados sobre procedimentos correntes, a fim de tracar um perfil atual para bibliotecas publicas brasileiras.

Suas respostas serao tratadas com confidencialidade e discricao, conforme o presente projeto.

Desde ja' envio-lhe meus agradecimentos e firmo-me atenciosamente,

Roseane R. Velho Lopes

Appendix F

Enquiry Letter for Evaluation In Brazil - English

Dear Sir/Madam,

I am respectfully addressing this mail to you in order to request your co-operation in the assessment of a model designed by myself as part of my doctoral project which is being carried out at the City University, Department of Information Science, UK.

Basically, I designed an automated system for the access, organisation and retrieval of local data by Brazilian public libraries. Therefore, your help would be much appreciated to assess the model and see whether it could be applied to conditions prevailing in Brazil.

Thanks in advance and please do not hesitate to write for further details you may need about myself and the model proposed.

Yours sincerely,

Roseane R. Velho Lopes

Appendix G

Enquiry Letter for Evaluation In Brazil - Portuguese

Prezado Sr. /Sra Diretora,

Venho respeitosamente pela presente solicitar a sua cooperacao na avaliacao de um modelo que projetei como parte do meu projeto de doutoramento que esta' sendo executado junto a City University, Departamento de Ciencia da Informacao, Reino Unido.

Basicamente, eu projetei um sistema automatizado para o acesso, organizacao e recuperacao de dados locais por bibliotecas publicas brasileiras. Portanto, seu auxilio seria extremamente apreciado para avaliar o modelo e verificar se o mesmo pode ser aplicado a condicoes que prevalecem no Brasil.

Agradecendo-lhe de antemao, coloco-me a sua inteira disposicao para quaisquer detalhes que forem necessarios para o prosseguimento desta solicitacao.

Atenciosamente,

Roseane R. Velho Lopes

Appendix H

ALIS Evalutation - Preliminary In-depth Interviews - English Verslon

1. What is your idea of:

a. Community Information:

b. Local studies:

2. Do you think there is a need for community information and local studies supply in your library?

3. What resources do you have available/use for community information and local studies supply?

4. Can these resources be given to users as they are or do they need some alteration/simplification?

5. Do you think that wider library resources are capable of supplying data for queries on community informattion and local studies? For example, a poster announcing dates of national immunisation campaigns, a display for a local studies activity, etc.

6. In case you have local resources files, how do you organise them?

7. Do you have links/co-operate with external information providers for community-related information and local studies supply? Ex. organise common activities with other libraries, have links with museums, schools, etc.

Appendix I

ALIS Evalutation - Preliminary In-depth Interviews - Portuguese Verslon

1. Qual e' a sua ideia de:

a. Informacoes da comunidade:

b. Estudos locais:

2. V. acha que ha' necessidade de informacoes da comunidade e estudos locais na sua biblioteca?

3. Que recursos V. tem disponivel/usa para fornecer informacoes da comunidade e estudos locais?

5. Se voce tem arquivos para dados locais, como V. os organiza?

6. Voce tem lacos de cooperacao com fornecedores de informacoes externos a biblioteca para informacoes da comunidade e estudos locais? Ex. organizacao de atividades com outras bibliotecas, museus, etc.

Appendix J

ALIS Evaluation - Self-Administered Questionnaires on Use and Performance (English)

1. Please comment on the suitability of the following:

a. Information repackaging of community-related information entries and their corresponding definition created by the libraries (appropriate/useful/desirable)?

b. Reference function used as a tool to provide initial community-related information and to direct users to wider library resources (appropriate/useful/desirable):

c. Referring users to sources of community-related data external to the library (appropriate/useful/desirable):

2. Are entries and definitions clear and adequate as an initial reference tool for community-related information supply for the end user? In case they are not, how could they be improved? Please give examples:

3. Do entries and definitions with corresponding referral addresses reflect community-related information needs?

4. About the field that refers to the wider library resources, is it an appropriate/useful and/or desirable approach? What do you think about the way it was presented in the prototype?

5. Is referring to external organisations other than local ones an appropriate approach?

6. How easy/difficult was to search information in the prototype? And the different files?
- 258

7. How easy/difficult are the user interfaces for searching? Are the two end user menus clear?

8. Are the display formats clear and informative?

9. What is your overall opinion of data entry in ALIS?

10. Are entry menus clear?

11. Are instructions for data entry, i.e. fields and subfields, helpful/adequate and easy to follow?

Appendix K

Self-Administered Questionnaires on Use and Performance - Portuguese Version

1. Favor comente sobre a adequacao dos seguintes conceitos:

a. Tratamento de informacoes relativas a comunidade como entradas com correspon - dentes definicoes criadas pela biblioteca (apropriado/util/desejavel):

b. Funcao de referencia usada como um instrumento para fornecer dados relativos a comunidade e para direcionar usuarios para os recursos amplos da biblioteca (apropriado/ util/desejavel)

c. Referir usuarios a fontes de informacoes relativas a comunidade externos a biblioteca (apropriado/util/desejavel):
2. As entradas e definicoes soa claras e adequadas como um instrumento inicial de referencia para o fornecimento de informacoes relativas a comunidade para o usuario final? Caso elas nao forem, como poderiam ser melhoradas? De exemplos:
3. Entradas e definicoes com enderecos referenciais correspondentes refletem necessidades de informacoes da comunidade?
4. Sobre o campo que refere aos recursos amplos da biblioteca, V. o considera uma abordagem adequada? O que V. acha da forma com que este campo foi apresentado no prototipo?
5. Referir a organizacoes externas diferentes das locais e' uma abordagem adequada?
6. O que V. achou de buscar informacoes no prototipo? E nos diferentes arquivos?

7. As interfaces do usuario para busca sao facéis? Os dois menus para o usuario final sao claros?

8. Os formatos de saida sao claros e informativos?

9. Qual foi a sua opiniao geral sobre a entrada de dados em ALIS?

10. Os menus de entrada sao claros?

11. As instrucoes para entrada de dados, ex. campos e subcampos, sao adequadas e facéis de serem seguidas?

APPENDIX L

ALIS EVALUATION - INDIVIDUAL INTERVIEWS ON IMPLEMENTATION ENGLISH VERSION

- 1. What subject areas for community-related Information supply would you add to the ones in ALIS?**
- 2. Consider the feasibility of the concepts underlining the prototype as if they were going to be applied to your library. How sound/feasible/desirable are they?**
 - a. Information repackaging:**
 - b. The reference function (self-definition with referrals to existing resources):**
 - c. Referral to external organisations other than local ones:**
- 3. What changes would you introduce in the system design? Why?**
- 4. What are the constraints that you see in the present prototype at design and operational levels?**
 - a. Design:**
 - b. Operation of the prototype:**
 - c. Personnel:**
 - d. Physical/material resources:**
 - e. Skills:**
 - f. Finances:**
 - g. Setup/Maintenance/Management aspects:**
- 5. Do the constraints outweigh the advantages of the prototype? Why?**
- 6. Would you consider the idea of piloting ALIS in your library?**

APPENDIX M

ALIS EVALUATION - INDIVIDUAL INTERVIEWS ON IMPLEMENTATION PORTUGUESE VERSION

1. Que areas de Informacoes relativas a comunidade V. adicionaria aquelas ja existentes em ALIS?

2. Considere a factibilidade dos conceitos implicitos no prototipo como se eles fossem ser aplicados a sua biblioteca. O quao adequados/desejaveis eles o sao?

a. Tratamento/empacotamento de Informacoes:

b. Funcao de referencia (auto-definicao e referencia a recursos):

c. Referencial a organizacoes diferentes das locais:

3. Que mudancas V. Introduziria no prototipo e por que?

4. Quais sao as desvantagens que V. ve no prototipo a nivel de projeto e operacao?

a. Projeto do prototipo:

b. Operacao do prototipo:

c. Pessoal:

d. Recursos fisicos/materiais:

e. Qualificacoes/habilidades:

f. Financas:

g. Manutencao/Montagem/Gerenciamento:

f. Montagem/Manutencao/Gerenciamento:

5. As desvantagens pesam mais do que as vantagens do prototipo? Por que?

6. V. consideraria a ideia de pilotar um sistema como ALIS?

APPENDIX N

Data collection form for Community-Related Queries In Brazilian Public Libraries
ENGLISH VERSION

NAME OF LIBRARY: _____
DATE: _____

1. QUERY: _____

2. SUBJECT AREA: _____

3. HOW THE QUERY WAS ANSWERED: _____

4. SATISFACTORY/UNSATISFACTORY RESULT: _____

APPENDIX O

Data collection form for Community-Related Queries In Brazilian Public Libraries
PORTUGUESE VERSION

NOME DA BIBLIOTECA: _____
DATA: _____

1. QUESTAO: _____

2. AREA: _____

3. COMO FOI RESPONDIDA A QUESTAO: _____

4. RESULTADO SATISFATORIO/NAO SATISFATORIO: _____

APPENDIX P

**EMPTY AND FILLED DATA ENTRY WORKSHEETS AND
DISPLAY FORMATS FOR ALIS DATABASES**

Figure 7.3.3-1 Empty Data Entry Worksheet for CITYOR

Name _____

Address _____

Purpose _____

Contact _____

Opening hours _____

Keywords _____

Update
Prompt ** PRESS X TO EXIT **

J - Next page | B - Previous page | M - Modify | N - New record |
| X - Exit | D - Delete | C - Cancel | T - End revise | MFN= 85
Last page

Figure 7.3.3-2 Filled Data Entry Worksheet for CITYOR

Name ^aAA^nAlcoholics Anonymous_____

Address ^aAv. Independencia, 992^pCEP 90.010^tTel.:240104_____

Purpose <Voluntary organisation>, dealing especially with <drinking> and <alcohol-related problems>. Holds frequent meetings, <support groups> and <campaigns> to help <alcoholics> and their families. <Confidential advice> and <counselling> available._____

Contact ^nDr. Susana Vieira^pRegional Director of AA_____

Opening hours ^dMo-Sat^h8.00-20.00h_____

Keywords <addiction><alcoholism><alcohol><drinking problem><voluntary organisations>_____

Update
Prompt ** PRESS X TO EXIT **

J - Next page | B - Previous page | M - Modify | N - New record |
| X - Exit | D - Delete | C - Cancel | T - End revise | MFN= 1
Last page

Figure 7.3.4-1 Display format for CITYOR

3 of 86

000003 - AGAPAN. Gaucho Association for the Protection of the Environment.

R. Gen. Joao Telles, 522. Tel.: 287352.

Purpose: AGAPAN is one of the oldest and most prestigious Brazilian institutions committed to the <environment> and <ecology>. Often called to assess environmental quality nationwide. Provides advice, organises campaigns, training and courses on topics such as <pollution control>,<reforestation>, etc.

Contact: Dr. Jose Lutzemberger. Regional Director.

Opening Hours: Mo-Fri, 8.00-12.00h and 14.00-18.00h.

** PRESS X TO EXIT **

-Up

-Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

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Figure 7.3.4-2 Display format for record in CITYOR

5 of 86

000005 - Amnesty International.

R. Sarmento Leite, 246, R. 202. Tel.: 240729.

Purpose: Caters for the defense of <human rights> worldwide, i.e. <rights of minority groups>, individuals suffering <political persecution>,<discrimination>,<torture> and all sorts of <violation of human rights>. Organises meetings, campaigns and courses. <Confidential advice> available.

Contact: Ms. Maria Aparecida Moraes. Regional Director.

Opening Hours: Mo-Fri, 8.00-19.00h.

** PRESS X TO EXIT **

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-Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

|

Figure 7.4.5-1 Empty Data Entry Worksheet for AZHEAL

Health concern _____

Definition _____

Address1 _____

Address2 _____

Address3 _____

[M - Modify | R - Right just | S - Shift | D - Delete | C - Center
- Next | X - Exit |
HEAL1 / 1

Address4 _____

In our Library _____

Keywords _____

Update _____
Prompt *** PRESS X TO EXIT ***
[M - Modify | R - Right just | S - Shift | D - Delete | C - Center
- Next | X - Exit |
HEAL1 / 2

Figure 7.4.5-2 Filled Data Entry Worksheet for AZHEAL
Health concern AIDS

Definition <AIDS> is a VERY SERIOUS disease: THERE IS NO CURE for it yet. It can be caught by sexual contact, i.e. AIDS is a <Sexually Transmitted Disease> STD, or via HIV-infected blood. <HIV> means Human Immunodeficiency Virus, the virus that causes AIDS. AIDS makes the body less able to fight diseases, because HIV attacks the body's defense system, weakening it. PREVENTION is very important. Get informed, use condoms and DON'T SHARE needles in case of injected drugs. Information on AIDS is found in many places and in the addresses below with absolute confidentiality. To KNOW about AIDS is to PROTECT YOURSELF and the ONES YOU LOVE.

Address1 ^nMunicipal Health Secretary^uDermatology and Sanitation Division
aRua Luiz Afonso, 234^tTel.:255207.

Address2 ^nClinics Hospital^uDermatology and Public Health Department^aRua
Ramiro Barcellos, 2350^tTel.:315111.

Address3 ^nHospital Sao Lucas-PUCRS^aAvenida Ipiranga, 6690^tTel.:369444.

Address4 ^nHospital Conceicao^aAvenida F. Trein, 596^tTel.:411300.

Note Lastest on AIDS: 1. 'AIDS', a book by C.A. Carne, and 2. 'AIDS - teenage information series' by Alison Kilpatrick (many copies available). Remember that if the material is on loan, the library will reserved it for you!

Next page |

Keywords <AIDS><Acquired Imuno Deficiency Syndrome><Sexually Transmitted Diseases><STDs><STD><HIV>

Update

Figure 7.4.5-3 Empty Data Entry Worksheet for AZJOBS

Name _____

Definition _____

Address1 _____

Address2 _____

␣ - Next page | B - Previous page | M - Modify | N - New record |
| X - Exit | D - Delete | C - Cancel | T - End revise | MFN=

More ...

Address3 _____

Address4 _____

In our library _____

Keywords _____

Update _____

Prompt _____

EDIT: ReplaceLast pageMFN=

Name Accountant_____

definition The professional accountant is a specialist in <Accountancy>, science which deals with planning, analysis an interpretation of all kinds of financial transations. May work in public practice, in commercial and industrial organisa ions, central and local government, public boards or corporations. Many choose o specialize in a particular aspect of the work, ex. taxation, auditing or cost ng and budgeting control. A university degree is required for the professional ccountant. Entry examinations are the ones required by university bodies in thi country. Courses take 3-4 years. The demand for all sectors is good._____

ddress1 ^nUFRGS^uDepartment of Accounting and Finances^aAv. Paulo da Gama, 110^ CEP 90049^tTel.:254988_____

ddress2 ^nPUCRS^uDepartment of Accounting and Finances^aAv. Ipiranga, 6681^pCEP 90620^tTel.:369400_____

- Next page | B - Previous page | M - Modify | N - New record |
X - Exit | D - Delete | C - Cancel | T - End revise | MFN= 1
More ...

ddress3 ^nPorto Alegre Faculty of Administrative and Accounting Sciences^aAv Manoel Elias, 2001^pCEP 91300^tTel.:343533_____

ddress4 _____

n our library Recommended specific books: 1. John Eve's 'Accounting: an insight by John Eve and 'Careers in accountancy' by Felicity Taylor. If the material y u want is on loan, the llbrary will be happy to reserve it for you. For more ge eral data, see the 'Careers Encyclopedia' by Audrey Segal._____

eywords <Accounting>_____

Update _____
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Figure 7.4.5-5 Empty Data Entry Worksheet for AZLAW

Name _____

Definition _____

Address1 _____

Address2 _____

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X - Exit	D - Delete	C - Cancel	T - End revise	
		More ...		MFN=

Address3 _____

Address4 _____

In our library _____

Keywords _____

Prompt _____ Update _____

EDIT: Replace Last page MFN=

Name Young Persons' Work_____

Definition For the scope of the law, anyone younger than 18 and older than 12 ye
s of age is considered a young person. <Children> younger than 12 years of age
e forbidden to work in Brazil. From the age of 12 to 14, work is permitted, p
vided: 1) school frequency is guaranteed, and 2) jobs performed are of light a
easy nature and do not present any health hazard, exception made for training
and skills learned under strict specialized supervision of a fully qualified p
son/body, recognized at the local labour secretary. No <young person> can do n
t work, or any activity harmful to his/her growth. Young persons must all hav
their own work card upon admission to work._____

Press1 ^nJudicial Assistance Unit^aAv. Salgado Filho, 140^tTel.: 245899_____

Press2 ^nYoung Persons' Jurisdiction of Rio Grande do Sul State^uYoung Persons
Section^aR. Cel. Vicente, 382, R.201^tTel.:251451_____

- Next page	B - Previous page	M - Modify	N - New record	
- Exit	D - Delete	C - Cancel	T - End revise	
More ...				MFN= 64

Press3 _____

Press4 _____

our library Our Consolidation of Labour's Legislation, from Article 402 to 44
re about young persons' work, requirements, conditions and penalties for non
ompliance with the law. There are many copies of this document in our library
l you are very welcome to consult it any time. Do not hesitate to ask for it._

/words <Child><the young><young>_____

Update				
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- Next page	B - Previous page	M - Modify	N - New record	
- Exit	D - Delete	C - Cancel	T - End revise	
Last page				MFN= 64

Figure 7.4.6-1 Display format for records in AZHEAL

8 of 110

000008 - Addiction

*** PRESS X TO EXIT ***

What is: An overwhelming desire/need for a drug, from the 'socially accepted', ex. alcohol or cigarretes, to illegal ones (marijuana, crack, cocaine, etc). Addiction means that the body has become physically dependent on the drug and that there will be unpleasant symptoms if the drug is not taken. With most drugs, eventually the addict becomes obsessed with obtaining the drug at any cost, therefore causing social problems and even crimes. To stop addiction is an act of courage and strenght of will. Help is almost always necessary and at hand in the addresses below.

In our Library: 'Addictions: what they are, why they happen and how to help' by Liz Hodgkinson and 'Addictions and addicts' by Vernon Coleman are in our library collection for you. Literary tips: young people and drugs are in 'Happy Old Year', book and film, author is Marcelo Rubens Paiva, and 'The girls', by Lygia Fagundes Telles.

Alcoholics Anonymous; Avenida Independencia, 993. Tel.:240104.

Hospital and Clinics Saint Joseph; Avenida Oscar Pereira, 4821. Tel.:369122.

-Up

-Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

|

10 of 110

000010 - Alcoholism

*** PRESS X TO EXIT ***

What is: To have an <alcohol> or <drinking> problem is the overwhelming desire for drinking alcoholic beverages, meaning that the body has become dependent on them and that it will experience disagreeable effects if alcohol is not taken. Although alcohol is a 'socially accepted' drug, too much of it compromises good health. As drinking is socially acceptable, it means that one may not realize one has a serious drinking problem until the development of severe liver problems and chronic ill health before jaundice, coma and eventually death. Seek for help in the addresses below. Not only the person with an alcohol problem but also his/her family need support, so don't hesitate to ask for advice/help.

In our Library: Latest acquisitions on alcohol-related problems: 1) Rob Stepney's book 'Alcohol: understanding drugs' and Brian R. Ward's book 'Alcohol abuse: life guides', among many others in our library collection.

Alcoholics Anonymous; Avenida Independencia, 993. Tel.:240104.

Hospital and Clinics Saint Joseph; Avenida Oscar Pereira, 4821. Tel.:369122.

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PgUp-Previous

PgDn-Next

Home-First

End-Last

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Figure 7.4.6-2 Display formats for records in AZJOBS (two examples)

8 of 75

000008 - Apprenticeship

*** PRESS X TO EXIT ***

What is: The traditional way of becoming a craftsperson is to become an apprentice. Normally, the employer teaches the trade, and pays a wage at the same time. Much of the <training> is done on the job, but one can also be encouraged to go to schools paid by the employer or organised in the workplace itself. Companies may recruit apprentices with a wide range of skills and qualifications. Check whether the apprenticeship you are applying for is recognised by the Education and/or Industry and Commerce Secretary: it is in the law that they should be. Look for schools and job agencies with links with the manufacturing communities.

In our Library: Have a look at the Employment Posters at the entrance: the library tries to keep an eye on apprenticeship opportunities locally. Don't forget the local press: many firms offer on-the-job trainings, especially in the neighbouring industrial area of Canoas.

SENAI. Technical School of the National Industry Service; Av. Sertorio, 473. Tel.:420355.

SESI. Crafts Unit of the Industry Social Service; Av. Assis Brasil, 8787.

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PgDn-Next

Home-First

End-Last

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- 24 of 75

000024 - Building crafts

*** PRESS X TO EXIT ***

What is: Building crafts include a large variety of jobs, such as <bricklayer>,<carpenter>,<glazier>,<painter>,<decorator>,<woodworker>,<plater>,<plumber>,<stonesperson>,<slater> and <tiler>. Apart from new constructions, they also work in the less generally known but significant areas of conversion, improvement, maintenance and repair of existing property. Most of the opportunities are with general or specialist contractors, but there are also openings with local authorities, property companies and large factories. There is scope for promotion to foreman, site manager/agent and above. Below we list places in town where building crafts can be learnt and practiced.

In our Library: 'Jobs in the building trade' by Alan S. Watts is the most specific reference material our library has on building crafts as a whole, and you are very welcome to consult it.

Parobe State Secondary School; Av. Loureiro da Silva, 945. CEP 90010. Tel.:216953.

Santo Inacio College; Av. Pe. L. Bretano, 700. Tel.:422858.

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PgUp-Previous

PgDn-Next

Home-First

End-Last

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Figure 7.4.6-3 Display format for records in AZLAW

2 of 64
 00002 - Chamber of Small Claims *** PRESS X TO EXIT ***

What is: The 1988 Constitution states that the Chamber of Small Claims, created by Law 7244 of 1984, can process, judge and execute any judicial <claim> of small value and lesser complexity, as well as <minor crimes> and <offenses>, when amounts involved are less than 20 minimum salaries. According to Law 8078 of 1990, which is related to Consumers' Protection, the <Chambers of Small Claims> have competence to judge all issues concerning <consumers' rights>, with no alimiting amount for such claims. The Chambers of Small Claims aim at providing immediate access to justice to all. For <legal advice>, <legal help> and <information> refer to the addresses below. This is a <free legal service> to all.

Our Library: 'Chamber of Small Claims: Doctrine and Jurisprudence' published by the Supervising Council for the Chambers of Small Claims is in our library collection and contains not only the full ruling legislation but also comments on the competence of this tribunal and examples of several claims judged. You are very welcome to browse and consult this material in our library any time.

State Justice Tribunal. Chamber of Small Claims; Praca Mal. Osorio, s/n..

-Down PgUp-Previous PgDn-Next Home-First End-Last |

8 of 64
 00008 - Data Protection Act *** PRESS X TO EXIT ***

What is: <Habeas Data> or the Brazilian <data protection legislation> refers to the access and safeguard of personal information contained in government data banks. It is granted by the 1988 Constitution, and states that all have the right to access their own personal data or information of personal concern in the government data banks, except in the cases where the safety of the Brazilian state may be in jeopardy. The judgement of data protection processes is made by the Federal Supreme Tribunals and the Federal Regional Tribunals. Addresses provided below show places where free legal advice on habeas data can be obtained locally.

Our Library: The full text of the Data Protection Act and legislation can be found in our library in the 1988 Constitution. Check the following articles: Article 5th, LXXII, LXXVII and LXIX; Article 102, I(d) and II(a); Article 105, I(b); Article 108, I(c), and finally Article 109, VIII.

Judicial Assistance Unit; Av. Salgado Filho, 140. Tel.: 245899.

UFRGS. Faculty of Law; Av. Joao Pessoa, 52. Tel.: 214062.

-Down PgUp-Previous PgDn-Next Home-First End-Last |

Figure 7.5.3-1 Empty Data Entry Worksheet for LOCAL

Name _____

Highlights _____

In our library1 _____

In our library2 _____

M - Modify		R - Right just		S - Shift		D - Delete		C - Center
- Next		X - Exit						

LOCAL / 1

In our library3 _____

In our town1 _____

In our town2 _____

Keywords _____

Update _____

Prompt *** PRESS X TO EXIT ***

M - Modify		R - Right just		S - Shift		D - Delete		C - Center
- Next		X - Exit						

LOCAL / 2

Figure 7.5.3-2 Filled Data Entry Worksheet for LOCAL

Name Lacador _____

Highlights The <Lacador> is the most famous and beloved statue of a gaucho and r
pe handler ever made, also a symbol of our state. It is located in a small squa
e by the Canoas access to the city, very close to Porto Alegre's international
irport. Who modelled for the statue was the then 26 year old <Antonio Paixao Co
tes>, one of the founders of the most traditional Gaucho Traditions Centres, th
<35>.

n our library1 ^tShort history of Porto Alegre^aSpalding, Walter^pSulina^d1967^
Porto Alegre^mBook^kAdult Non fiction^oHighly recommended.

n our library2 ^tPorto Alegre throughout the times^aFortini, Archymedes^pCultur
Division^d1962^lPorto Alegre^mBook^kAdult Non fiction^oHighly recommended.

- Next page | B - Previous page | M - Modify | N - New record |
X - Exit | D - Delete | C - Cancel | T - End revise | MFN= 18
More ...

n our library3 _____

n our town1 ^lHistorical and Geographical Institute^tPorto Alegre: land and peo
le^aBarbosa Lessa, Luiz Carlos^eAbril^dn.d^pPorto Alegre^mBook^kAdult Non ficti
n^oHighly recommended.

n our town2 _____

- Next page | B - Previous page | M - Modify | N - New record |
X - Exit | D - Delete | C - Cancel | T - End revise | MFN= 18
More ...

eywords <Monuments><statues><sights> _____

Update _____
Prompt *** PRESS X to EXIT ***

Figure 7.5.4-1 Display format for record in LOCAL

3 of 40

000003 - Beach Street

Highlights: This is the old, beloved shopping street of our town, named so because its ground originally belonged to the Guaiba. A late afternoon stroll is mandatory along <Beach Street>. The main <banking district> is also found in the surroundings of the <Customs Square>, intersecting Beach Street, as well as the Old Post Office and the State Art Museum. Its official name is <Andradas Street>.

In our Library1: Tales from Beach Street; Sa, Renato Maciel de. Globo, 1981. Porto Alegre. Book. Adult fiction. Highly recommended.

In our Library2: Porto Alegre: pleased to meet you; Schenkel, Maria da Graca. Martins Livreiro, 1988. Porto Alegre. Book. Adult Non fiction. Highly recommended.

In our town1: Historical and Geographical Institute of Rio Grande do Sul. Porto Alegre: portrait of a city, Town Hall of Porto Alegre, 1940. Book. Adult Non fiction. Recommended

*** PRESS X to EXIT ***

Up

Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

Figure 7.5.4-2 Display format for record in LOCAL

6 of 40

000006 - Bom Fim

Highlights: One of our liveliest <boroughs>, with plenty to do and see. For daytime, try bookshops, furniture and antique shops; nighttime, enjoy an artsy movie, the array of <concerts> at the Federal University, or simply sit till the small hours in one of the open air local cafes. On Sundays, stroll around Little Saint Theresa Str. for the <Flea Market>. Bom Fim is also the home of a large Jewish community.

In our Library1: War at Bom Fim; Scliar, Moacyr. Expressao e Cultura, 1972. Book. Adult Fiction. Highly recommended.

In our Library2: The Army of a Lone Man; Scliar, Moacyr. Expressao e Cultura, 1975. Porto Alegre. Book. Adult Fiction. Highly recommended.

In our Library3: Short history of Porto Alegre; Spalding, Walter. Sulina. 967. Porto Alegre. Book. Adult Non fiction. Highly recommended.

In our town1: Jewish Centre of Porto Alegre; R. Henrique Dias, 73. Centre holds a large library.

*** PRESS X to EXIT ***

Up

Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

Figure 7.6.3-1 Empty Data entry worksheet for LIBRY

Date _____ Physical medium/Media format _____
ISBN _____ ISSN _____
Title _____
Edition _____
Author/Artist/Director _____
Performers _____
Place of publication/publisher _____
Date of publication/release _____
Physical attributes _____
| M - Modify | R - Right just | S - Shift | D - Delete | C - Center
| - Next | X - Exit |
LIBRY / 1

Note _____
Abstract _____
Classmark _____
Subject descriptors _____
Machine it runs on _____
Barcode _____
Location In the Library _____
Status of copies In the Library _____

Prompt ** PRESS X TO EXIT **
| M - Modify | R - Right just | S - Shift | D - Delete | C - Center
| - Next | X - Exit |
LIBRY / 2

Figure 7.6.3-2 Filled Data entry Worksheet for LIBRY

Date _____ Physical medium/Media format NEWSPAPER _____
ISBN _____ ISSN 01446339
Title ^mArthritis News _____
Edition _____
Author/Artist/Director _____
Performers _____
Place of publication/publisher ^pSao Paulo^aAv. Ipiranga, 630, Room 513, Tel.: (11) 2234568^nArthritis Care _____
Date of publication/release 1985- _____
Physical attributes _____
- Next page | B - Previous page | M - Modify | N - New record |
X - Exit | D - Delete | C - Cancel | T - End revise | MFN= | 10
More ...
Note The library holds all numbers of this newspaper for you to browse. _____
Abstract Arthritis News has a wealth of information, from comprehensive coverage on treatments, centres and addresses, helplines, etc. Editors also welcome comments, suggestions and contributions from readers. _____
Classmark _____
Subject descriptors <Arthritis><health> _____
Machine it runs on _____
Barcode _____
Location In the Library SERIALS LIBRARY _____
Status of copies ^iIn the library _____
Prompt *** PRESS X TO EXIT ***
- Next page | B - Previous page | M - Modify | N - New record |
X - Exit | D - Delete | C - Cancel | T - End revise | MFN= | 10
More ...

Figure 7.6.4-1 Display format for record in LIBRY

- 13 of 96

000013 - BOOK

Assis Brasil, Luiz Antonio de. A quarter of league in square. Porto Alegre. Movimento/IEL. 1976.

Content: Through the diary of Gaspar Frois, ship doctor and imigrant, we see what life was like for the unprepared and idealist first settlers who came to our state in the 1700s. With no help from the government, although many were ready to make a life in the new world, owning the land was a priority, with little interest for cultural activities. The hard side of immigration is shown in full: a feature of our past to be known and understood.

Notes: The title of the book refers to the amount of land given to each of the 60 couples from the Acores Islands who came to colonize our city.

Location in the Library: FICTION LIBRARY and LOCAL STUDIES LIBRARY.

Copies availability: In the Library.

*** PRESS X TO EXIT ***.

Up

-Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

|

Figure 7.6.4-2 Display format for record in LIBRY

21 of 96

000021 - BOOK

Basic Skills Unit. Jobhunting kit, tips for young people. London. COIC. 1984.

Content: Contains easy-to-read and comprehensive information on <job hunting>, especially designed for school leavers and young people. It has step-by-step instructions on how to write a personal information chart, known by the name of <curriculum vitae> or <CV>, how to go about writing <application letters>, what to do before, during and after <interviews>, as well as addresses of training programs and agencies.

Location in the Library: COMMUNITY INFORMATION and REFERENCE LIBRARY.

Copies availability: In the Library.

*** PRESS X TO EXIT ***.

Jp

-Down

PgUp-Previous

PgDn-Next

Home-First

End-Last

|

APPENDIX Q -

QUERIES COLLECTED IN BRAZILIAN PUBLIC LIBRARIES

1. QUERIES COLLECTED AT ISC - INFORMATION SERVICE FOR CITIZENSHIP

1. Value for the US dollar	6	ISC FILES
2. Title of Book on History of Art	1	Library Resources
3. Meaning of IBAMA and address	1	ISC FILES
4. Places to measure sound pollution: SP	1	ISC FILES
5. Bookmobiles: addresses	1	ISC FILES
6. Local legal advice on divorce	1	Referral
7. Address of Official Journal MT State	1	ISC FILES
8. Where to get Federal Journal s. 1977?	1	ISC FILES
9. Lodgings for the homeless	1	ISC FILES
10. First aids courses in SP	1	ISC FILES
11. Environmental legislation	1	Library Resources
12. Assuncao Treaty/Mercosul: copy?	1	Referral
13. Events: dances and films in the library	1	Library Resources
14. Local toy hospitals for dolls: where	1	ISC FILES
15. How to open a small business	1	Referral
16. Accidents prevention at work: legal	1	Referral
17. Death penalty in Brazil	1	Library Resources
18. Masterworks of Silvano S. Morley	1	Library Resources
19. Women's work: legal	1	Library Resources
20. Works on marketing in the library	1	Library Resources
21. Name of newly elected cabinet ministe	1	ISC FILES
22. Family planning: where in SP	1	ISC FILES
23. How big is Spain? France?	1	Library Resources
24. Evening computing classes	1	Library Resources
25. Modern olympic games: where/when	1	Library Resources
26. International driving license: where	1	Library Resources
27. Local occult libraries: where	1	ISC FILES
28. What is marketing and where to learn it	1	ISC FILES
29. Journal of the Law School, Bahia, 1892?	1	Referral
30. Transfer of property to new owner?	1	Referral
31. Where/when 'The Night' (paper) publish	1	Referral
32. Book 'Body Talk' in the Library?	1	Library Resources
33. State Dept. for Human Resources: where	1	ISC FILES
34. Address of Modern Art Museum	1	ISC FILES
35. Immunisation to go to Amazon: where	1	ISC FILES
36. Biography of Paulo Bonfim	1	Library Resources
37. Current data on state of SP	1	Library Resources
38. Old newspapers: State MT, 1800s	1	Referral
39. 'Dracula' - book by B. Stoker in library?	1	Library Resources
40. Newspaper 'The State' of SP @ 1970/80	1	Referral
41. Where to learn Latin American dance?	1	Referral
42. Aid/Treatment for cancer: where	1	ISC FILES
43. Legal libraries: contracts	1	Referral
44. Local studies on Mario d Andrade?	1	Referral
45. Addresses of LIS schools	1	ISC files
46. National anthems several countries	1	Referral
47. Unicef's address in Sao Paulo	1	ISC FILES
48. Flag of State of S. Paulo: symbology	1	Library Resources
49. Books on microprocessors in library	1	Library Resources
50. Town hall address and foundation	1	Library Resources
51. State Museum: foundation and address	1	Library Resources
52. Vale do Anhangabau: foundation	1	Library Resources
53. Municipal Theatre: foundation	1	Library Resources
54. Plano: courses university level, where	1	ISC FILES
55. US newspapers in town	1	Referral
56. Biography: St. Louis Gonzaga	1	Library Resources
1. Total of Queries Collected	62	

2. Queries collected at Public Library of State of Rio Grande do Sul

Query	No. Queries	Source of Reply
1. Books on Chemistry, Physics, Maths, Biology for exam = A levels in Brazil	12	Library Resources
2. Newspaper Official Journal of RS	5	Library Resources
3. Mercosul Treaty: where to get copy of it	3	Referral
4. Computing evening classes	3	Reference Files
5. US dollar value	2	Library Resources
6. Poets of gaucho literature	2	Library Resources
7. Biography and bibliograp.. of Mario Quintana	2	Library Resources
8. Data on AIDS	2	Library Resources
9. Regional camping sites	2	Reference Files
10. Events in the library	2	Library Resources
11. Legal data on strikes	1	Referral
12. Books on Santeria in the Library	1	Library Resources
13. Water pollution labs in the state	1	Library Resources
14. Local dance workshops	1	Reference Files
15. Summer courses on Spanish	1	Reference Files
16. Legal information on small businesses	1	Referral
17. Bibliography of Braz. romantic writers	1	Library Resources
18. Lost and found for lost IDs	1	Reference Files
19. Local Xmas fairs	1	Reference Files
20. Addresses of local vintage car dealers	1	Reference Files
21. Newspaper Zero Hour in 1970s	1	Library Resources
22. Birth certificates for people born in 19th cent.	1	Referral
23. Microwave cooking courses	1	Reference Files
24. Maternity planning clinics in town	1	Reference Files
25. Longest streets in town: names and length	1	Reference Files
26. Naturalisation for children born here	1	Referral
27. Training for life-guard work over summer	1	Reference Files
28. Legal data on how to make a will	1	Referral
29. Books on how to train puppies	1	Library Resources
30. Gaucho outfits through the times	1	Library Resources
31. US bookshops	1	Library Resources
32. Seasons greetings in Japanese/Chinese	1	Referral
33. Newspaper 'The People's Courier' 1962/65	1	Library Resources
Total of Queries Collected	58	

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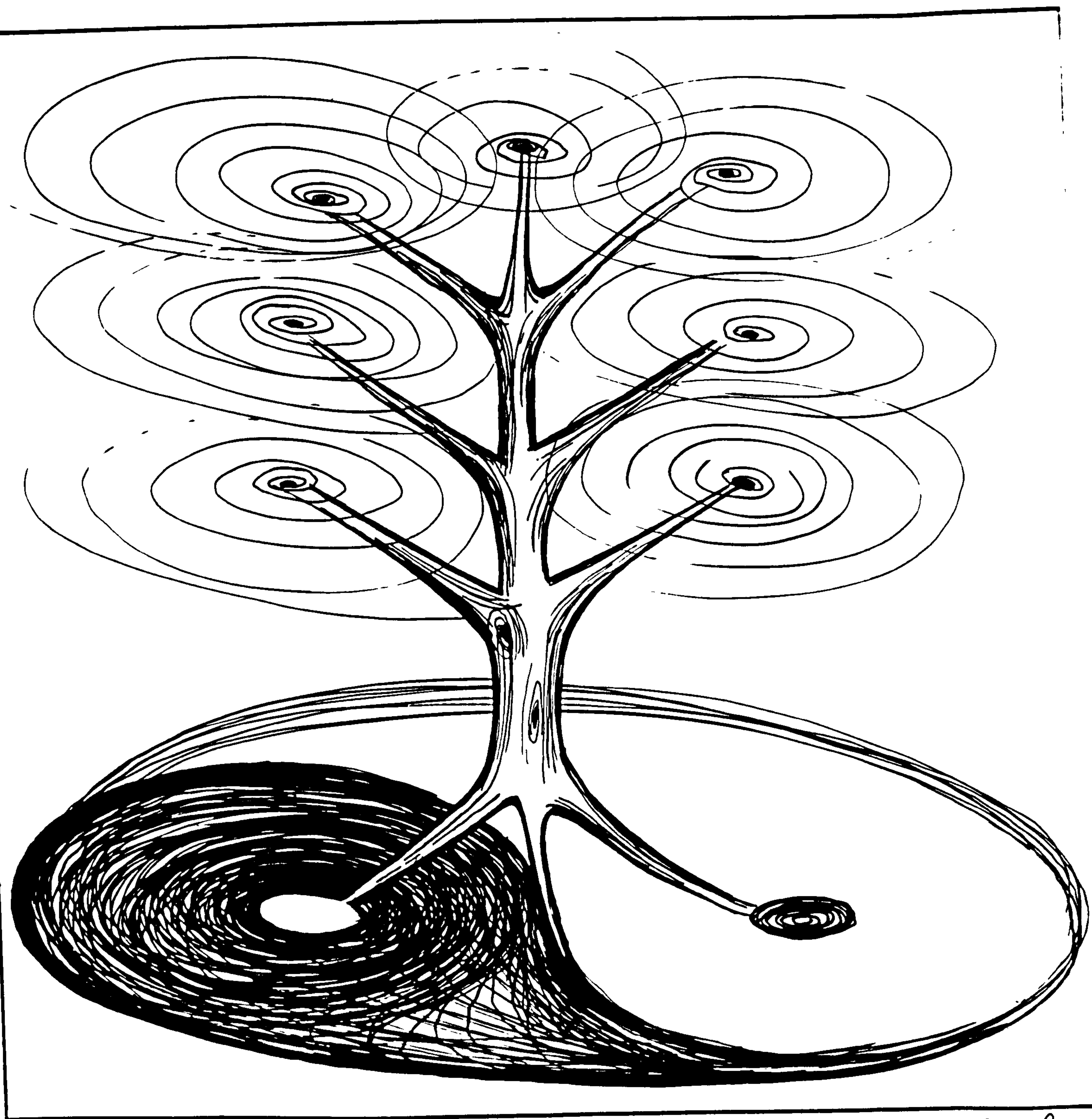
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**Tomorrow's Community-Related Information Systems
exist first in our Visions, then in our Will, Deep
Insights and Deeds of Today.**